

Florida International University
School of Computing and Information Sciences

Software Engineering Focus

Meetings Diary

AmLight - Learning OpenFlow/SDN Network Research and
Experimentation

Team Members: Cindy Perez, Jose Mercardo, Kenia Chang He, and Yuyang Leng

Product Owner: Vasilka Chergarova

Mentor: Jeronimo Bezerra

Instructor: Masoud Sadjadi

This section contains a collection of meetings conducted over the course of the project.

Sprint 1

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 5/18/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 9:00PM

After discussion, the velocity of the team was estimated to be $4 * 25 = 100 + 100 * 90\% = 190$ hours for this sprint.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- None, because the product owner did not attend the Sprint Planning Meeting.

The team members indicated their willingness to work on the following user stories:

- No user stories available to the team at this time.

Summary of other stuff discussed:

- Set up the environment for the project and learn about the libraries/APIs used in the project.
- Meet with the product owner for more details about the project on 5/20/20 Wednesday at 3PM.
- Watch the Youtube videos of the project and take note of the problems encountered.
- Add Capstone I Team to our GitHub project group.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/19/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 9:05PM

Cindy Perez:

- What was done?
 1. I set up the environment for the project on my personal machine (worked 5 hours).
- What is planned to be done?

1. I am going to get the remote desktop connection to work (planning for 5 hours).
- What are the Hurdles?
 1. SCIS password would not work (spent almost 2 hours on call with FIU IT), then when I got the SCIS password to work, the remote desktop connection told me I wasn't authorized to join that gateway.

Kenia Chang He:

- What was done?
 1. I worked on setting up the environment for the project and following the Youtube videos for the project (worked 5 hours).
- What is planned to be done?
 1. I plan to work on searching for how to load the topology (planning for 5 hours).
- What are the Hurdles?
 1. Could not follow the Pathfinder User Guide video because the part of loading the topology is not shown.

Jose Mercado:

- What was done?
 1. I worked on setting up the environment for the project in my personal Virtual Machine, and spent time researching background material (worked 9 hours).
- What is planned to be done?
 1. I plan on attending the product owner meeting, and from there after asking the questions I will begin working on the project (planning for 5 hours).
- What are the Hurdles?
 1. Loading the topology to the project to get the examples from the previous project to show up.

Yuyang Leng:

- What was done?
 1. I was trying to set up the environment and trying to learn APIs in this project yesterday (worked 5 hours).
- What is planned to be done?
 1. I will finish setting up the environment (planning for 4 hours).
- What are the Hurdles?
 1. Some packages could not be installed successfully, still trying to figure it out.

Project Kickoff Meeting Minutes:

Project: AmLight

Date: 5/20/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 3:00PM

End Time: 4:00PM

- Project Goals:
 - Learn about Kyos and how Openflow works.
 - Help developers in their Kytos development.
- Project Scope:
 - Issue #75 and issue #77 will be the ones initially tackled. More issues may be given as the project continues.
- Sprint 1 User Stories:
 - User Story 1: As a developer, I want to set up the environment for Kytos, so that I can start testing and developing applications with Kytos.
 - User Story 2: As a developer, I want to go over the Kytos tutorials, so that I have the knowledge for Kytos.
 - User Story 3: As a developer, I want to read over the OpenFlow documentation given to us by the Product Owner, so that I can become familiar with the software we are working with.
 - User Story 4: As a developer, I want to review the source code given to us by the Product Owner, so I can find where the issue is occurring and come up with a solution.
 - User Story 5: As a developer, I want to start working on a solution for the issue #75 that was given to us by the Product Owner, so I may implement the solution on the software given to us.
- Summary of other stuff discussed:
 - Learn Kytos by going through the tutorials on <https://kytos.io/>.
 - Pathfinder is just one of the napps developed using the Kytos framework, and we will be given subprojects to work on and develop other napps once divided into another team on this Friday.
 - Further instructions and requirements will be given once the new teams are formed by the product owner to work on different subprojects.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/21/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:46PM

Cindy Perez:

- What was done?
 1. I looked through the Kytos tutorial and set up an environment on my personal machine for Linux. I was also able to create a testing environment (checking applications) on a Windows VM through remote desktop connection. I also fixed up the templates for the team's sprint meetings (worked 6 hours).
- What is planned to be done?
 1. I will be going through the using Kytos with mininet tutorial and trying it out

on my environment. I will also try to publish the napp (planning for 5 hours).

- What are the Hurdles?
 1. None. All challenges were able to be resolved.

Kenia Chang He:

- What was done?
 1. I went through the Kytos tutorials on the Kytos website on my EC2 instance of Amazon Web Service (worked 5 hours).
- What is planned to be done?
 1. I am planning to learn more about Kytos for developing a napp (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I went over some of the Kytos tutorials given to us by the product owner (worked 3 hours).
- What is planned to be done?
 1. I plan to finish the tutorials as well as make sure my system is set for the project (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I have learned something about kytos and mininet but not finished (worked 4 hours).
- What is planned to be done?
 1. Keep setting up the environment and keep learning knowledge from mininet and kytos (planning for 5 hours).
- What are the Hurdles?
 1. There is still something wrong when I was trying to install some import packages.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/22/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:51PM

Cindy Perez:

- What was done?
 1. I looked over old python networking projects I made previously, and tried to create and build an NApp on Kytos (worked 5 hours).
- What is planned to be done?
 1. I will be resolving the NApp error I recieved, and going through complex networking protocols as a refresher (planning for 5 hours).
- What are the Hurdles?
 1. Received an unexpected error while trying to run my NApp.

Kenia Chang He:

- What was done?
 1. I worked on building and installing my own NApp using the instructions provided in the tutorial on the AWS EC2, but I got some exceptions while running Kytos and also trying to install the NApp (worked 3 hours).
 2. I also worked on trying to use a different VM, so I set up the environment on a local VM and did the same tutorial but the errors persist to occur (worked 3 hours).
- What is planned to be done?
 1. I will research the problems and try to resolve them (planning for 5 hours).
- What are the Hurdles?
 1. The exception "Address already in use" when trying to run \$kytosd -f.
 2. The exception "HTTP Error 400: BAD REQUEST" when trying to install the custom NApp instructed in the Kytos tutorials

Jose Mercado:

- What was done?
 1. I worked on the Kytos tutorials again (worked 1 hour).
 2. I practiced my python, making sure I remember the basics for this project (worked 1 hour).
 3. I revisited networking practices to refresh my memory on networking topics (worked 2 hours).
- What is planned to be done?
 1. Next week hopefully in the beginning of the week we will get our projects to start planning a strategy to tackle it (planning for 3 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I tried to set up Kytos on my machine (worked 4 hours).
- What is planned to be done?
 1. I will continue to see what my error is while running Kytos and get the environment set up (planning for 4 hours).

- What are the Hurdles?
 1. Kytos would not connect and allow me to open it up.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/26/20

Attendees: Cindy Perez, Kenia Chang He, and Jose Mercado.

Start Time: 8:30PM

End Time: 8:43PM

Cindy Perez:

- What was done?
 1. Went over old python projects I had, and tried to download mininet so it worked with my Kytos environment (worked 5 hours).
- What is planned to be done?
 1. Talking to the product owner about the project, and asking questions about the Kytos environment (planning for 5 hours).
- What are the Hurdles?
 1. Could not download mininet to set up my Kytos with mininet environment.

Kenia Chang He:

- What was done?
 1. I worked on researching the installation of custom NApps in Kytos to solve the error of HTTP Bad Request (worked 8 hours).
- What is planned to be done?
 1. I plan to work on a possible solution found to the HTTP error (planning for 5 hours).
- What are the Hurdles?
 1. Not able to install custom NApps in Kytos.

Jose Mercado:

- What was done?
 1. Going over tutorials for the NApps on Kytos, and making sure my VM is up to date and ready to work (worked 5 hours).
- What is planned to be done?
 1. Going over the rest of the NApp tutorials (planning for 6 hours).
- What are the Hurdles?
 1. None so far.

Yuyang Leng:

- What was done?
 1. All environment requirements setted up (worked 4 hours).

- What is planned to be done?
 1. Reviewing the code to figure out where it goes wrong (planning for 4 hours).
- What are the Hurdles?
 1. Kytos would not connect and allow me to open it up.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/27/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:42PM

Cindy Perez:

- What was done?
 1. Asked the product owner for more details about sub projects (worked 1 hour).
 2. Went through some of the tutorials of python's openflow library (worked 2 hours).
 3. Looked into issue #75 given to us by the product owner (worked 2 hours).
- What is planned to be done?
 1. Go through the rest of the openflow library (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I registered for the Kytos NApps Server and uploaded the custom NApps before installation to overcome the HTTP Bad Request error (worked 2 hours).
 2. I learned more about Kytos by doing the tutorials on the Kytos website on my local VM (worked 3 hours).
- What is planned to be done?
 1. I plan to complete the rest of Kytos SDN tutorials and start to get my hands on the issue we are assigned to on GitHub for the Kytos project (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Worked on finishing up the tutorials for kytos, and worked on reviewing networking (worked 6 hours).
- What is planned to be done?
 1. Review any other tutorials that the product owner gave to us today (planning

for 7 hours).

- What are the Hurdles?
 1. None for today.

Yuyang Leng:

- What was done?
 1. I installed kytos and it works well. I had my environment all setted up (worked 2 hours).
- What is planned to be done?
 1. Install mininet to test tomorrow (planning for 3 hours).
- What are the Hurdles?
 1. The pathfinder app could not work well with kytos. I will try some other ways.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/28/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. I went over the Kytos SDN tutorials (worked 3 hours).
 2. I also checked the AmLight OpenFlow sniffer that the product owner sent to us (worked 2 hours).
- What is planned to be done?
 1. I am going to join the Kytos slack group and introduce myself (planning for 1 hour).
 2. I will also be going over issue #75 with the team (planning for 4 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I completed all the Kytos SDN tutorials (worked 4 hours).
 2. I examined the assigned Kytos issue #75 on GitHub by starting to read the documentation of OpenFlow 1.3 (worked 1 hour).
- What is planned to be done?
 1. I plan to continue reading the documentation and also learn more about OpenFlow through the section on Flowgrammable (planning for 5 hours).
- What are the Hurdles?
 1. I was able to solve the hurdles I encountered before this meeting.

Jose Mercado:

- What was done?
 1. I went over the Kytos SDN tutorials and reviewed OpenFlow (worked 6 hours).
- What is planned to be done?
 1. I plan to look over issue #75 which was given to us by the product owner (planning for 4 hours).
- What are the Hurdles?
 1. None, but will probably have questions for issue #75.

Yuyang Leng:

- What was done?
 1. Learned some more tutorials for kytos and mininet (worked 3 hours).
- What is planned to be done?
 1. Get all knowledge ready by this week for further implementation (planning for 10 hours).
- What are the Hurdles?
 1. Too many things on network need to be learned, and I will finish it as soon as possible.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 5/29/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. Read through the OpenFlow 1.3 specification (worked 2 hours).
 2. Kept going through the AmLight OpenFlow sniffer (worked 3 hours).
- What is planned to be done?
 1. I am going to join the Kytos slack group and introduce myself (planning for 1 hour).
 2. I will also be going over issue #75 with the team (planning for 4 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on reading through the documentation of OpenFlow to understand its basic as well as the match field that we need to focus on in order to solve issue

#75 (worked 5 hours).

- What is planned to be done?
 1. I plan to look at the source code of kytos/of_core and kytos/python-openflow to know where to start for solving issue #75 (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I read through the rest of the OpenFlow documentation and looked through the issue given to us by the product owner (worked 5 hours).
- What is planned to be done?
 1. I plan to start getting a plan set for how to tackle the problem given to us and start working on the project (planning for 8 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Keep learning on mininet and kytos (worked 2 hours).
- What is planned to be done?
 1. Finish the learning by this week and start building real things (planning for 4 hours).
- What are the Hurdles?
 1. There is always something wrong when installing a mininet. Will figure it out soon.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 5/31/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:30PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 1: As a developer, I want to set up the environment for Kytos, so that I can start testing and developing applications with Kytos.
- User Story 2: As a developer, I want to go over the Kytos tutorials, so that I have the knowledge for Kytos.
- User Story 3: As a developer, I want to read over the OpenFlow documentation given to us by the Product Owner, so that I can become familiar with the software we are

working with.

- User Story 4: As a developer, I want to review the source code given to us by the Product Owner, so I can find where the issue is occurring and come up with a solution.
- User Story 5: As a developer, I want to start working on a solution for the issue #75 that was given to us by the Product Owner, so I may implement the solution on the software given to us.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 5/31/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 3:30PM

End Time: 3:41PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes, our team met the velocity that we estimated at the Planning Meeting for this sprint.
- Did we do a good job estimating the points (time required) for each user story?
 - No, mostly because we got our user story way late into the sprint.
- Did each team member work as scheduled?
 - Yes, each team member did the work that they needed to do, and did not fall behind too much.

What went right?

- The progress and everyone working on the tutorials was ahead of schedule a lot of the time.
- Good communication between the team and everyone knew what the others were doing and what the other team members were working on.

How to address the issues in the next sprint?

- How to improve the process?
 - Improve product owner communication with the team.
 - Scheduling the meetings at better times during the sprint.
- How to improve the product?
 - Implementing our pseudocode for issue #75.
 - Asking the product owner for more issues ahead of time to convert into more user stories.

Sprint 2

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/1/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:45PM

End Time: 9:00PM

Cindy Perez:

- What was done?
 1. Tried to join the Kytos slack group (worked 1 hour).
 2. Looked over the Kytos code base to see where we could fix issue #75 (worked 4 hours).
- What is planned to be done?
 1. Following the product owners instructions to join the Kytos slack group (planning for 1 hour).
 2. Look more closely at the code base and try to follow along the github code (planning for 4 hours).
- What are the Hurdles?
 1. Could not join the Kytos slack group due to permission issues.
 2. Could not find exactly where to put our code to fix the issue.

Kenia Chang He:

- What was done?
 1. I worked on researching for details about the process in OpenFlow to understand how the packets are transmitted (worked 3 hours).
 2. I also worked on trying to understand the concept of OXM TLV (worked 2 hours).
- What is planned to be done?
 1. I plan to focus on the source code to know where to implement our solution for issue #75 (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Review OpenFlow documentation and start to review what was given to us in terms of the issue we were given (worked 6 hours).
 2. Tried to review documentation for possible implementation of our solution

(worked 2 hours).

- What is planned to be done?
 1. Work on finding a way to implement our solution given the issue and the source code (planning for 8 hours).
- What are the Hurdles?
 1. Trying to understand the documentation given, did overcome for the most part.

Yuyang Leng:

- What was done?
 1. Reading the source code to define the part I need to improve (worked 2 hours).
- What is planned to be done?
 1. Keep reading the source code (planning for 4 hours).
- What are the Hurdles?
 1. There is plenty of code we need to get familiar first, it may take a lot of time.

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 6/1/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 9:00PM

End Time: 9:07PM

After discussion, the velocity of the team was estimated to be $4 \times 25 = 100$ hours per week. These 100 hours will be divided into 15 story points per person. User stories 6 through 14 are each worth 3 points, User story 15 is worth 5 points, User story 16 is worth 4 points, and User story 17 is worth 6 points.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- User Story 18: As a user, I want to use the physical input port as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 19: As a user, I want to use the IP DSCP as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 20: As a user, I want to use the IP ECN as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 21: As a user, I want to use the UDP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 22: As a user, I want to use the UDP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 23: As a user, I want to use the ICMPV4 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 24: As a user, I want to use the ICMPV4 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.

- User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 27: As a user, I want to use the IPV6 FLabel as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 28: As a user, I want to use the ICMPV6 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 29: As a user, I want to use the ICMPV6 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 30: As a user, I want to use the IPV6 ND Target as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 31: As a user, I want to use the IPV6 ND SLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 32: As a user, I want to use the IPV6 ND TLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 33: As a user, I want to use the IPV6 EXTHDR as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

The team members indicated their willingness to work on the following user stories:

- Cindy Perez
- User Story 15: As a user, I want to be able to use the mask function for the TCP Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 16: As a user, I want to be able to use the mask function for the TCP Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 17: As a developer, I want to test the implementation for issue #75, so that I can make sure it is working for the users.
- Kenia Chang He
- User Story 6: As a user, I want to be able to use the mask function for the Datalink VLAN ID matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 7: As a user, I want to be able to use the mask function for the VLAN Priority Code Point matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 8: As a user, I want to be able to use the mask function for the Datalink Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 17: As a developer, I want to test the implementation for issue #75, so that I can make sure it is working for the users.

- Jose Mercardo
- User Story 12: As a user, I want to be able to use the mask function for the IPv4 Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 13: As a user, I want to be able to use the mask function for the IP Protocol matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 14: As a user, I want to be able to use the mask function for the Input Port matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 17: As a developer, I want to test the implementation for issue #75, so that I can make sure it is working for the users.
- Yuyang Leng
- User Story 9: As a user, I want to be able to use the mask function for the Datalink Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 10: As a user, I want to be able to use the mask function for the Datalink Type matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 11: As a user, I want to be able to use the mask function for the IPv4 Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 17: As a developer, I want to test the implementation for issue #75, so that I can make sure it is working for the users.

Summary of other stuff discussed:

- Planned for a Review Meeting with the Product Owner starting this Sprint.
- Went over questions on the source code for issue #75.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/2/20

Attendees: Cindy Perez, Kenia Chang He, and Jose Mercardo.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. Looked through the of_core code for Kytos, and the python-openflow code to find a location suitable for our code to be brought in (worked 5 hours).

- What is planned to be done?
 1. Talking with the product owner about joining the slack group (planning for 1 hour).
 2. Talking with some Kytos developers to see if the issue is still persisting and any leads that could be given to us (planning for 4 hours).
- What are the Hurdles?
 1. The code seems to already implement ways that calculate subnetting; however, the issue is still persisting.

Kenia Chang He:

- What was done?
 1. I looked into the implementation of python-openflow in order to discover what is lacking that causes the issue #75 to occur (worked 5 hours).
- What is planned to be done?
 1. I plan to continue on acquiring more knowledge about the OpenFlow protocol (planning for 3 hours).
 2. I also want to explore how we can develop and test our code for kytos when we try to solve the assigned issue (planning for 2 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I reviewed the source code in the repo given to us, as well as the source code in the OpenFlow repo to see how to implement the solution (worked 6 hours).
- What is planned to be done?
 1. Talk to the product owner and previous team for some clarification on the source code (planning for 1 hours).
 2. Continue going over the solution to find a spot in the source code to implement the solution (planning for 7 hours).
- What are the Hurdles?
 1. Trying to understand the source code and see what the connection between match and openflow.

Sprint Backlog Grooming Meeting Minutes:

Project: AmLight

Date: 6/3/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, Yuyang Leng, Antonia (Kytos developer), Rogerio (Kytos developer), and Vasilika Chergarova.

Start Time: 3:00PM

End Time: 3:58PM

The following user stories were refined, weighted, and prioritized, ready for being scheduled

in the following sprints:

- User Story 18: As a user, I want to use the physical input port as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 19: As a user, I want to use the IP DSCP as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 20: As a user, I want to use the IP ECN as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 21: As a user, I want to use the UDP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 22: As a user, I want to use the UDP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 23: As a user, I want to use the ICMPV4 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 24: As a user, I want to use the ICMPV4 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 27: As a user, I want to use the IPV6 FLabel as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 28: As a user, I want to use the ICMPV6 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 29: As a user, I want to use the ICMPV6 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 30: As a user, I want to use the IPV6 ND Target as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 31: As a user, I want to use the IPV6 ND SLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 32: As a user, I want to use the IPV6 ND TLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 33: As a user, I want to use the IPV6 EXTHDR as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/3/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. I added to and edited to our current minute meetings to reflect our current standings with the project (worked 2 hours).
 2. Created a Trello board including all senior project members and the product owner (worked 1 hour).
 3. Went over the code that Antonio showed us at our backlog grooming meeting and tried to understand some of the headers (worked 1 hour).
 4. Joined the Kyos slack group and introduced myself (worked 1 hour).
- What is planned to be done?
 1. Going over the Trello board with the product owner to make sure some user stories are approved (planning for 1 hour).
 2. Going over issue #75 with the team and going through the solution Antonio showed us (planning for 4 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I continued acquiring more knowledge about the python implementation of OpenFlow v1.3 protocol (worked 3 hours).
 2. I added and refined user stories in our product backlog and discussed them with my Senior Project teammates (worked 2 hours).
- What is planned to be done?
 1. I plan to explore how we can develop and test our code for Kytos when we try to solve the assigned issue (planning for 2 hours).
 2. I plan to work on fixing issue #75 based on the feedback received from the Kytos developer (planning for 4 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I continued going over the source code, and after meeting with the product owner now have got an idea on how to work on the project (worked 4 hours).
 2. I helped edit the product backlog adding the user stories as well as the other documentation for the sprint planning meeting (worked 2 hours).
- What is planned to be done?
 1. Now with the answers we had for the product owner answered, I now will go about going through the of_core source code and plan on implementing the solution to issue #75 (planning for 6 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Had a meeting with the product owner and had more ideas for the user story (worked 1 hour).
 2. Learning on openflow from the tutorial and viewing the code for issues in our user stories (worked 2 hours).
- What is planned to be done?
 1. Keep learning and viewing (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/4/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. Copied our local github repository with the source code, and installed Kytos through the way that Antonio suggested, so as to be easy to test (worked 2 hours).
 2. Tried to get the flow running as Antonio suggested and it did (worked 1 hour).
 3. Implemented the match field solution Antonio suggested to one of the fields and tested to see if it worked, and it did (worked 2 hours).
- What is planned to be done?
 1. Finish implementing the solution and going to submit a pull request to merge (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I explored how we will be able to contribute to the Kytos project on Github once we start implementing our code to the kytos/of_core repository (worked 2 hours).
 2. I worked on getting the environment for developing kytos/of_core setup (worked 3 hours).
- What is planned to be done?
 1. I plan to start fixing issue #75 and finish implementing the code for the issue (planning for 5 hours).

- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Recopied the repo for the of_core to my VM where I am working on the issue, and re-installed Kytos the way Antonio said to do (worked 2 hours).
 2. Began trying to implement the matchfield needed for our issue, have not tested just yet (worked 3 hours).
 3. Reviewed OpenFlow document due to some questions for implementation (worked 1 hour).
- What is planned to be done?
 1. Finish implementing matchfield and hopefully testing to see if implementation works (planning for 4 hours).
 2. Recopy openflow repo to VM (planning for 2 hours).
- What are the Hurdles?
 1. Just a few questions for openflow but found answers in documentation.

Yuyang Leng:

- What was done?
 1. Learned on open flow and tried to understand the questions on our user stories (worked 2 hours).
- What is planned to be done?
 1. Get familiar with the questions in our user stories (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/5/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. I looked through the TCP masking as described in networking to see if that should be implemented in Kytos; although, the documentation for Openflow 1.3 would suggest that it is not implemented (worked 5 hours).
- What is planned to be done?
 1. Speaking with the Kytos development team about implementing this match field for both TCP source and destination (planning for 5 hours).

- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I tried to figure out the way to test the implementation of kytos/of_core as shown by Antonio back in the Grooming Meeting (worked 2 hours).
 2. I worked on implementing the mask for vlan_vid and vlan_pcp matching fields (worked 3 hours).
- What is planned to be done?
 1. I plan to implement the mask for the eth_src matching field (planning for 4 hours).
 2. I plan to explore more on how I will be able to test my implementation (planning for 1 hour).
- What are the Hurdles?
 1. I am not quite sure about some of the details in Antonio's demonstration for testing.

Jose Mercado:

- What was done?
 1. After finding out that the implementation I have been given does not need masks, I looked into the port matching (worked 4 hours).
 2. I looked through the OpenFlow documentation to look through the implementation for ports (worked 1 hour).
- What is planned to be done?
 1. Finish the port matching implementation and then move on to the IPv4 destination (planning for 6 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Learning on mask functions and datalink for further implementation (worked 2 hours).
- What is planned to be done?
 1. Get ready to work by today and then start my implementation (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight
Date: 6/8/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:53PM

Cindy Perez:

- What was done?
 1. I implemented the TCP source match field mask function (worked 4 hours).
 2. I tried testing the TCP source match field mask function; however, it wasn't working as expected (worked 1 hour).
- What is planned to be done?
 1. I plan to implement the TCP destination match field mask function (planning for 4 hours).
 2. Testing the TCP destination match field mask function (planning for 1 hour).
- What are the Hurdles?
 1. I had trouble testing the TCP destination match field mask function, the way Antonio suggested it is not working as my topology isn't loading as expected.

Kenia Chang He:

- What was done?
 1. I finished my implementation of the mask function for all the three matching fields I got assigned to (worked 3 hours).
 2. I attempted to figure out the method to test my code for masking the three matching fields that I got assigned to (worked 2 hours).
- What is planned to be done?
 1. I plan to work on testing my implementation about the masking (planning for 5 hours).
- What are the Hurdles?
 1. The test process is not working as I thought previously, so I need to figure out the correct way of testing my code.

Jose Mercado:

- What was done?
 1. I finished implementing one of my assigned masks for the port (worked 5 hours).
 2. I started working on the IPv4 mask I was assigned (worked 2 hours).
- What is planned to be done?
 1. I plan to finish the mask implementation I am working on, and to start the last one I needed to finish (planning for 5 hours).
- What are the Hurdles?
 1. I do not know if what I did was correct until I test it out, but other than that nothing.

Yuyang Leng:

- What was done?

1. Learning progress is almost done only to get more clear on netmask (worked 5 hours).
- What is planned to be done?
 1. Starting implementing my tomorrow (planning for 2 hours).
- What are the Hurdles?
 1. Get a bit confused on netmask.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/9/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:44PM

Cindy Perez:

- What was done?
 1. I uninstalled Kytos from the Github cloned repository I had, and also uninstalled Kytos from the actual virtual machine; however, this caused my virtual machine to crash (worked 5 hours).
- What is planned to be done?
 1. Redownloading a new virtual machine and redownloading Kytos on it (planning for 2 hours).
 2. I plan to implement the TCP destination match field mask function (planning for 2 hours).
 3. Testing the TCP destination match field mask function (planning for 1 hour).
- What are the Hurdles?
 1. My virtual machine crashed and got corrupted, so I have to start downloading Kytos from the first step again.

Kenia Chang He:

- What was done?
 1. I worked on trying to test my implementation of the mask for the three matching fields (worked 5 hours).
- What is planned to be done?
 1. I plan to ask in the Slack Workgroup for more details about how to test the mask function for the matching fields (planning for 1 hours).
 2. I plan to work on the testing based on the response I will receive back from the Slack Workgroup (planning for 4 hours).
- What are the Hurdles?
 1. The NApp I built to try to install the flow having the three matching fields and their mask to the switch for testing my implementation does not work, so I am out of ideas to test my code.

Jose Mercado:

- What was done?
 1. Went back to the previous port match implementation to fix up (worked 1 hours).
 2. Continued working on the IPv4 destination match implementation (worked 4 hours).
- What is planned to be done?
 1. Will hopefully finish IPv4 implementation and will start the last implementation I have been given (planning for 5 hours).
- What are the Hurdles?
 1. Need to find a way to test the implementations worked on.

Yuyang Leng:

- What was done?
 1. Started implementing and understood the example (worked 2 hours).
- What is planned to be done?
 1. Finish the user stories and start to figure out a way to test (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/10/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. Getting an AWS machine to help with my internet connection issues (worked 1 hour).
 2. Downloading Kytos and cloned the github repository for the kytos/of_core (worked 3 hours).
 3. Looked through Antonios video for testing the mask implementation (worked 1 hour).
- What is planned to be done?
 1. Implement mask fields and test them (planning for 5 hours).
- What are the Hurdles?
 1. Connection issues due to my internet.

Kenia Chang He:

- What was done?
 1. I debugged my mask implementation while testing it based on the tutorial received back from Antonio (worked 5 hours).
- What is planned to be done?
 1. I will share my experience with my teammates about what to keep in mind while testing the mask implementation (planning for 2 hours).
 2. I will help my teammates to finish the mask implementation of the rest of the matching fields by explaining my idea (planning for 3 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I finished implementing the IPv4 implementation I was assigned (worked 2 hours).
 2. I started working on the last implementation I was given and looked over the port input implementation (worked 3 hours).
- What is planned to be done?
 1. I will finish the implementation for the last story I was given, and I will move on to make a test environment for the implementations (planning for 4 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I have finished most of the implementation (worked 4 hours).
- What is planned to be done?
 1. Test the code to see if those work (planning for 4 hours).
- What are the Hurdles?
 1. Not sure how to test it.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/11/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. I redid the TCP source match field mask function (worked 3 hours).

- 2. Tried testing this TCP source match field mask function, but got another issue with Kytos on my virtual machine (worked 2 hours).
- What is planned to be done?
 - 1. Asking my teammates for help with the installation process (planning for 5 hours).
- What are the Hurdles?
 - 1. Kytos installation issues on my virtual machine.

Kenia Chang He:

- What was done?
 - 1. I talked with my teammates about what to keep in mind while testing the mask implementation (worked 2 hours).
 - 2. I helped my teammates to finish the mask implementation of the rest of the matching fields by explaining my idea (worked 3 hours).
- What is planned to be done?
 - 1. I plan to finalize the implementation before delivering this version on the official Github repository (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?
 - 1. I attempted to work on the last implementation for IP protocol, and would need assistance to finish (worked 3 hours).
- What is planned to be done?
 - 1. I plan to attempt to finish the implementations so I can be on time with the rest of the team (planning for 5 hours).
- What are the Hurdles?
 - 1. Trying to understand the matchfield for IP protocol.

Yuyang Leng:

- What was done?
 - 1. Finished my implementation (worked 2 hours).
- What is planned to be done?
 - 1. Finish the testing (planning for 3 hours).
- What are the Hurdles?
 - 1. None.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 6/12/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, Yuyang Leng, Antonia (Kytos developer), Rogerio (Kytos developer), and Vasilika Chergarova.

Start Time: 3:00PM

End Time: 3:36PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 6: As a user, I want to be able to use the mask function for the Datalink VLAN ID matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 7: As a user, I want to be able to use the mask function for the VLAN Priority Code Point matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 8: As a user, I want to be able to use the mask function for the Datalink Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 9: As a user, I want to be able to use the mask function for the Datalink Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 10: As a user, I want to be able to use the mask function for the Datalink Type matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 11: As a user, I want to be able to use the mask function for the IPv4 Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 12: As a user, I want to be able to use the mask function for the IPv4 Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 13: As a user, I want to be able to use the mask function for the IP Protocol matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 14: As a user, I want to be able to use the mask function for the Input Port matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 15: As a user, I want to be able to use the mask function for the TCP Source matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 16: As a user, I want to be able to use the mask function for the TCP Destination matching field of a flow as of OpenFlow v1.3, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 17: As a developer, I want to test the implementation for issue #75, so that I can make sure it is working for the users.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/12/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. Implemented the TCP destination match field function (worked 4 hours).
 2. Showed both implementations to my team members for feedback (worked 1 hour).
- What is planned to be done?
 1. Next sprint, I will be working on issue #77 with the team (planning for 5 hours).
- What are the Hurdles?
 1. According to the Kytos developer Antonio, TCP source and destination should not have a mask; therefore, my implementation will stay there just in case, but it will not be a part of the final Kytos source code.

Kenia Chang He:

- What was done?
 1. I worked on finalizing the implementation before delivering this version on the official Github repository (worked 5 hours).
- What is planned to be done?
 1. I plan to work on issue #77 and discuss the user stories for the issue with my teammates (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I finished working on the 3 implementations that were given to me for the sprint (worked 3 hours).
 2. I worked with Cindy and Kenia to help with my implementation (worked 1 hour).
- What is planned to be done?
 1. I will finish by testing the implementation I have done, and then begin with our next issue that was given (planning for 6 hours).
- What are the Hurdles?

1. None .

Yuyang Leng:

- What was done?
 1. Learning on the next issue we plan to do the next sprint (worked 2 hours).
- What is planned to be done?
 1. Planned to work on issue #77 (planning for 4 hours).
- What are the Hurdles?
 1. None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 6/12/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:40PM

End Time: 8:52PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes we did.
- Did we do a good job estimating the points (time required) for each user story?
 - Yes, we were able to complete all the user stories for this sprint in a timely manner.
- Did each team member work as scheduled?
 - Yes, each team member worked as scheduled.

What went right?

- Better communication with the Product Owner and the team.
- The team communicated a lot with one another, and were constantly helping each other.
- Communication with the Kytos developer went smoother due to the team having access to the Slack group channel.

How to address the issues in the next sprint?

- How to improve the process?
 - Follow tutorials for testing and read the openflow documentation that were given by the Kytos development team.
- How to improve the product?
 - Next sprint we will be working on fixing issue #77 for the Kytos project.

Sprint 3

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 6/15/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:36PM

After discussion, the velocity of the team was estimated to be $4 \times 25 = 100$ hours per week. These 100 hours will be divided into 15 story points per person. User stories 18 through 34 are each worth 3 points.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- User Story 35: As a user, I want to use the Metadata as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 36: As a user, I want to use the SCTP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 37: As a user, I want to use the SCTP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 38: As a user, I want to use the ARP OP as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 39: As a user, I want to use the ARP SPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 40: As a user, I want to use the ARP TPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 41: As a user, I want to use the ARP SHA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 42: As a user, I want to use the ARP THA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 43: As a user, I want to use the MPLS Label as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 44: As a user, I want to use the MPLS TC as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 45: As a user, I want to use the MPLS BOS as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 46: As a user, I want to use the PBB ISID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 47: As a user, I want to use the Tunnel ID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 48: As a developer, I want to test the implementation for the second half of

issue #77, so that I can make sure it is working for the users.

The team members indicated their willingness to work on the following user stories:

- Cindy Perez
- User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 27: As a user, I want to use the IPV6 FLabel as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 28: As a user, I want to use the ICMPV6 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 29: As a user, I want to use the ICMPV6 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

- Kenia Chang He
- User Story 18: As a user, I want to use the physical input port as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 19: As a user, I want to use the IP DSCP as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 20: As a user, I want to use the IP ECN as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

- Jose Mercardo
- User Story 30: As a user, I want to use the IPV6 ND Target as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 31: As a user, I want to use the IPV6 ND SLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 32: As a user, I want to use the IPV6 ND TLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 33: As a user, I want to use the IPV6 EXTHDR as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

- Yuyang Leng
- User Story 21: As a user, I want to use the UDP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 22: As a user, I want to use the UDP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.

- User Story 23: As a user, I want to use the ICMPV4 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 24: As a user, I want to use the ICMPV4 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.

Summary of other stuff discussed:

- Postpone pull request with main Kytos Github until Backlog meeting with Antonio (Kytos developer) on Wednesday 6/17/2020.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/15/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:37PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. Created some user stories from issue #77 to be split up into this sprint and a future sprint (worked 1 hour).
 2. Went through the openflow documentation again about the other match field functions that need to be implemented (worked 1 hour).
 3. Went through the microbook link that the product owner sent to us (worked 3 hours).
- What is planned to be done?
 1. Put up our user stories onto our Trello board for the Product owner to see (planning for 1 hour).
 2. Split up the user stories evenly between team members (planning for 1 hour).
 3. Start working on my user story implementations as needed (planning for 3 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I double checked the implementation for issue #75, then I made the pull request on kytos/of_core (worked 1 hour).
 2. I examined the OpenFlow 1.3.5 documentation for preparing to implement the match fields as described in issue #77 (worked 4 hours).
- What is planned to be done?

1. I plan to work on my assigned user stories for this sprint (planning for 5 hours).
- What are the Hurdles?
 1. The pull request for fixing issue #75 didn't pass one of the checks.

Jose Mercado:

- What was done?
 1. I went through the microbook the Product Owner linked to us about networking (worked 3 hours).
 2. I looked through the upcoming issue we have coming up to start thinking of ways for implementation of the solution (worked 2 hours).
- What is planned to be done?
 1. I plan to keep reading the microbook and continue to look into the issue we have this sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished some issues from the last sprint and reviewed the issues for this sprint (worked 4 hours).
- What is planned to be done?
 1. Read the micro-book and learn more about networking (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/16/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. Went through the openflow documentation again with the match field functions that I was given to get some ideas for implementation (worked 3 hours).
 2. Went through the microbook link that the product owner sent to us in more detail (worked 2 hours).
- What is planned to be done?
 1. Joining the backlog grooming meeting with the product owner and the Kytos developer to double check our user stories (planning for 1 hour).
 2. Going through the user stories given to me and planning my implementation out

in pseudocode on my github clone (planning for 4 hours).

- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I investigated the OpenFlow 1.3.5 documentation to understand the details of the match fields of my user stories this sprint (worked 3 hours).
 2. I looked into the python-openflow and of_core repositories to take note of what places I may need to make updates to implement my code (worked 2 hours).
- What is planned to be done?
 1. I plan to think of the pseudo code for the match fields I am assigned to and get my hands on the actual implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I went over the microbook again from the product owner (worked 2 hours).
 2. I looked over the OpenFlow Documentation for the match field I was assigned for the sprint (worked 3 hours).
- What is planned to be done?
 1. I will start looking into implementing the solution for my part of issue #77 (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I had some research on the user stories assigned to me and kept reading on the micro book (worked 5 hours).
- What is planned to be done?
 1. Finish learning the user stories and start implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Backlog Grooming Meeting Minutes:

Project: AmLight

Date: 6/17/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, Yuyang Leng, Julio, Humberto, Antonio, Marvin and Vasilika Chergarova.

Start Time: 3:00PM

End Time: 3:30PM

The following user stories were refined, weighted, and prioritized, ready for being scheduled in the following sprints:

- User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 35: As a user, I want to use the Metadata as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 36: As a user, I want to use the SCTP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 37: As a user, I want to use the SCTP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 39: As a user, I want to use the ARP SPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 40: As a user, I want to use the ARP TPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 41: As a user, I want to use the ARP SHA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 42: As a user, I want to use the ARP THA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 43: As a user, I want to use the MPLS Label as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 44: As a user, I want to use the MPLS TC as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 45: As a user, I want to use the MPLS BOS as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 47: As a user, I want to use the Tunnel ID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/17/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I helped Kenia fix the style issues about the pull request and took notes about

- what kind of style issues can occur in this sprint (worked 1 hour).
 - 2. I worked on some of the pseudo code needed to implement my user stories for this sprint (worked 4 hours).
- What is planned to be done?
 - 1. I plan to start implementing the match fields from the pseudo code I have (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Kenia Chang He:

- What was done?
 - 1. I fixed the style issues about the pull request with my teammates (worked 1 hour).
 - 2. I discussed with my teammates for taking the two user stories of implementing ARP OP and PBB ISID match fields into this sprint, and we put back the two user stories of IPv6 Source and IPv6 Destination into the Product Backlog for next sprint (worked 1 hour).
 - 3. I worked on coming up the pseudo code for the match fields I will be implementing in this sprint (worked 3 hours).
- What is planned to be done?
 - 1. I plan to start implementing the match fields that I am assigned to for this sprint (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?
 - 1. I finished reading the minibook the product owner linked to us (worked 1 hour).
 - 2. I looked through the source code to start coming up with a way to do my implementation for issue #77 (worked 3 hours).
- What is planned to be done?
 - 1. I will continue looking over the source code and start working on the first implementation I have assigned (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Yuyang Leng:

- What was done?
 - 1. Kept learning from the micro-book and had a grooming meeting with the product owner to fix some problems from issue #75 (worked 2 hours).
- What is planned to be done?
 - 1. Finishing the learning process (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/18/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. Implemented the code for the ICMPV6 Type match field (worked 5 hours).
- What is planned to be done?
 1. Implementing the code for the ICMPV6 Code match field (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I implemented the code to add the physical input port match field (worked 5 hours).
- What is planned to be done?
 1. I plan to implement the other match fields I am assigned to add in this sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I looked through the source code to start trying to implement one of my story points for the sprint (worked 5 hours).
- What is planned to be done?
 1. Tomorrow I hope to finish the first implementation and move on to the next (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished reading the microbook part that is useful to me (worked 5 hours).
- What is planned to be done?
 1. Keep learning on the user stories (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/19/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:39PM

Cindy Perez:

- What was done?
 1. I tested the ICMPV6 Type match field, and tried to fix some of the bugs I saw while testing (worked 5 hours).
- What is planned to be done?
 1. Implementing the ICMPV6 code match field (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I implemented the code to add the IP DSCP match field (worked 5 hours).
- What is planned to be done?
 1. I plan to implement the code to add the IP ECN match field (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I worked today on implementing the IPv6 ND Target match field (worked 4 hours).
- What is planned to be done?
 1. I will finish the IPV6 ND Target match field and begin to work on the next matchfield (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Find some examples for match_fields in other apps (worked 2 hours).
- What is planned to be done?
 1. Keep doing some of the research (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/22/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I implemented the code for the ICMPV6 Code match field but I have not tested it (worked 5 hours).
- What is planned to be done?
 1. Testing the implementation for the ICMPV6 match field (planning for 2 hours).
 2. Try to implement at least half of the IPV6 FLabel match field (planning for 3 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I updated the files as suggested in the pull request for resolving of_core #75 issue (worked 1 hour).
 2. I implemented the code to add the IP ECN match field (worked 2 hours).
 3. I implemented the code to add the ARP OP match field (worked 2 hours).
- What is planned to be done?
 1. I plan to test IP DSCP and IP ECN match fields to make sure the code works (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I finished the IPV6 ND Target implementation but did not test it yet (worked 4 hours).
 2. I began implementing the IPv6 ND SLL match field (worked 1 hour).
- What is planned to be done?
 1. I will continue to work on the IPv6 ND SLL match field and hopefully finish it (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?

- 1. Implementation almost done (worked 2 hours).
- What is planned to be done?
 - 1. Finish my implementation and figure out how to test (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/23/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:42PM

Cindy Perez:

- What was done?
 - 1. Tested the ICMPV6 Code match field, and fixed the bugs as they appeared (worked 5 hours).
- What is planned to be done?
 - 1. Implement the IPV6 FLabel (planning for 5 hours).
- What are the Hurdles?
 - 1. AWS machine crashed, and had to reboot the machine. I had the code on a local backup, so I didn't lose much progress. Have to redownload Kytos.

Kenia Chang He:

- What was done?
 - 1. I tested the code implementing the IP DSCP match field (worked 2 hours).
 - 2. I tested the code implementing the IP ECN match field (worked 2 hours).
 - 3. I tested the code implementing the ARP OP match field (worked 1 hour).
- What is planned to be done?
 - 1. I plan to test the code implementing the physical input port match field (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?
 - 1. I was able to finish the IPV6 ND SLL implementation (worked 2 hours).
 - 2. I started working on and completed the IPV6 ND TLL implementation, but I did not test any of the implementations that I finished yet (worked 2 hours).
 - 3. I began working on the IPV6 EXTHDR implementation (worked 1 hour).
- What is planned to be done?
 - 1. I hope to finish the last implementation I need to work on (planning for 5

hours).

- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished my implementation (worked 2 hours).
- What is planned to be done?
 1. Figure out how to test my work (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/24/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:43PM

Cindy Perez:

- What was done?
 1. I implemented the IPV6 FLabel mask field function, but I have not tested it yet (worked 2 hours).
 2. I implemented the PBB ISID mask field function, but I have not tested it yet (worked 3 hours).
- What is planned to be done?
 1. Test both the IPV6 FLabel and PBB ISID mask field functions that I have implemented (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I tested the physical input port match field (worked 3 hours).
 2. I discussed with my teammates about the implementation of the match fields we are working on this sprint, and we also tested the implementation we already had (worked 2 hours).
- What is planned to be done?
 1. I plan to figure out the reason causing the Bad Match Field error while testing the physical input port and fix it (planning for 5 hours).
- What are the Hurdles?
 1. The Bad Match Field error occurs when trying to pass the physical input port as

one of the match fields in a flow.

Jose Mercado:

- What was done?
 1. I finished my implementation for the IPV6 EXTHDR matchfield function (worked 3 hours).
 2. I was fixing my virtual machine to be able to test the implementations (worked 2 hours).
- What is planned to be done?
 1. I want to finish fixing up my VM to test my implementations, however it crashed and I may have to restart from installing kytos (planning for 5 hours).
- What are the Hurdles?
 1. My VM seems to have crashed, but it still worked after, and when I tried to run kytos it said there was an error.

Yuyang Leng:

- What was done?
 1. Test my implementation but it did not run as normal (worked 4 hours).
- What is planned to be done?
 1. Fix the errors (planning for 2 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/25/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:43PM

Cindy Perez:

- What was done?
 1. Test both the IPV6 FLabel and PBB ISID mask field functions that I have implemented (worked for 5 hours).
- What is planned to be done?
 1. Test all user stories with the full implementation of new mask field functions with team members (planning for 3 hours).
 2. Join review meeting with Product Owner and talk about the pull request for issue #77 (planning for 1 hour).
 3. Check style documentation with python lint for Kytos (planning for 1 hour).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I reviewed the implementation we made in this sprint with my team (worked 2 hours).
 2. I examined the documentation and figured out that the physical input port match field is not available directly as a regular match and only appears in the ofpt_packet_in messages (worked 3 hours).
- What is planned to be done?
 1. I plan to work on finalizing the code for the match fields added in this sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I worked on trying to test my implementations for issue #77 (worked 4 hours).
- What is planned to be done?
 1. I hope to work out how to get my VM to test correctly, hopefully to finish up the testing for the sprint by tomorrow (planning for 4 hours).
- What are the Hurdles?
 1. My virtual machine is giving me issues not testing correctly.

Yuyang Leng:

- What was done?
 1. Finished all my user stories implementation and all passed the test (worked 4 hours).
- What is planned to be done?
 1. Push them to my fork and do the pull request (planning for 2 hours).
- What are the Hurdles?
 1. None.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 6/26/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:36PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 19: As a user, I want to use the IP DSCP as one of the match fields for my

flow, so that I can utilize the OpenFlow v1.3 more realistically.

- User Story 20: As a user, I want to use the IP ECN as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 21: As a user, I want to use the UDP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 22: As a user, I want to use the UDP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 23: As a user, I want to use the ICMPV4 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 24: As a user, I want to use the ICMPV4 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 27: As a user, I want to use the IPV6 FLabel as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 28: As a user, I want to use the ICMPV6 Type as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 29: As a user, I want to use the ICMPV6 Code as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 30: As a user, I want to use the IPV6 ND Target as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 31: As a user, I want to use the IPV6 ND SLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 32: As a user, I want to use the IPV6 ND TLL as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 34: As a developer, I want to test the implementation for the first half of issue #77, so that I can make sure it is working for the users.
- User Story 38: As a user, I want to use the ARP OP as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- User Story 18: As a user, I want to use the physical input port as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- Reason of rejection: Bad Field Error occurs when testing.
- User Story 33: As a user, I want to use the IPV6 EXTHDR as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- Reason of rejection: Bad Field Error occurs when testing.
- User Story 46: As a user, I want to use the PBB ISID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- Reason of rejection: Bad Field Error occurs when testing.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/26/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:43PM

Cindy Perez:

- What was done?
 1. I worked on finalizing the code for the match fields added in this sprint with my team members (worked 5 hours).
- What is planned to be done?
 1. I plan to work on fixing the Bad Field errors for the physical input port, PBB ISID and IPv6 extension header match fields with my team members (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on finalizing the code for the match fields added in this sprint (worked 5 hours).
- What is planned to be done?
 1. I plan to work on fixing the Bad Field errors for the physical input port, PBB ISID and IPv6 extension header match fields with my teammates (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I revised the coding for the EXTHDR method (worked 2 hours).
 2. Revised the sprint goal with the rest of the team (worked 2 hours).
- What is planned to be done?
 1. I will attend the meeting with Antonio and hopefully be able to fix the issues on Monday (planning for 1 hour).
 2. I will begin to look into the implementation for the rest of issue #77 (planning for 4 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?

1. I worked on finalizing the code for the match fields added in this sprint with my team members (worked 5 hours).
- What is planned to be done?
 1. I plan to work on fixing the Bad Field errors for the physical input port, PBB ISID and IPv6 extension header match fields with my teammates (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 6/26/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:43PM

End Time: 8:48PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes, we worked the amount of hours we estimated.
- Did we do a good job estimating the points (time required) for each user story?
 - No, some of the match fields are giving us an unexpected Bad Field error that we did not estimate into our user stories; these user stories were: implementing the physical input port, PBB ISID, and IPv6 extension header match fields.
- Did each team member work as scheduled?
 - Each team member completed their user stories as scheduled.

What went right?

- Team communication was amazing this sprint.
- Communication with the Kytos developers was also good.
- Rate of user story completion also went ahead of schedule at times.

How to address the issues in the next sprint?

- How to improve the process?
 - Have different branches of our main repository, so we can make pull requests to the main Kytos repository.
- How to improve the product?
 - Developing the next set of match field functions.

Sprint 4

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 6/29/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:41PM

After discussion, the velocity of the team was estimated to be $4 \times 25 = 100$ hours per week.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- User Story 49: As a user, I want to be able to use the IPv6 packets, so that I can utilize the OpenFlow v1.3 more realistically.

The team members indicated their willingness to work on the following user stories:

- Cindy Perez
 - User Story 39: As a user, I want to use the ARP SPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 40: As a user, I want to use the ARP TPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 41: As a user, I want to use the ARP SHA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 42: As a user, I want to use the ARP THA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.
- Kenia Chang He
 - User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.
- Jose Mercardo
 - User Story 43: As a user, I want to use the MPLS Label as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 44: As a user, I want to use the MPLS TC as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
 - User Story 45: As a user, I want to use the MPLS BOS as one of the match fields for my

flow, so that I can utilize the OpenFlow v1.3 more realistically.

- User Story 47: As a user, I want to use the Tunnel ID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.
- Yuyang Leng
- User Story 35: As a user, I want to use the Metadata as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 36: As a user, I want to use the SCTP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 37: As a user, I want to use the SCTP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.

Summary of other stuff discussed:

- Discussed about the different branch needed for this sprint, and to disable the too many local variables argument on python lint to pass the checks on GitHub.
- Talked to the Capstone 1 team about the code review meeting and some advice given to us by the Kytos development team about pull requests on GitHub.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 6/29/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:41PM

End Time: 8:49PM

Cindy Perez:

- What was done?
 1. Fixed the user stories for the upcoming sprint and reflected those changed on the documentation and the trello board (worked 1 hour).
 2. Joined a code review meeting with Antonio and Rogerio which are Kytos developers (worked 1 hour).
 3. Reviewed the ARP architecture for my user stories for this sprint (worked 3 hours).
- What is planned to be done?
 1. Write down the pseudocode for my ARP match field functions (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I discussed with my teammates and the dev teams about the match fields causing the Bad Field error and our actions toward their implementation (worked 1 hour).
 2. I worked on fixing our of_core pull requests of last sprint to pass the checks and make it official (worked 1 hour).
 3. I discussed with my teammates about distributing the user stories in this sprint and our plan for the next sprint (worked 1 hour).
 4. I researched about the IPv6 address to have a clearer idea of how to implement the IPv6 address class (worked 2 hours).
- What is planned to be done?
 1. I plan to look into the code in the basic_types.py of python-openflow repository to come up with the pseudo code for the IPv6 address class (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. After the meeting with Antonio and being assigned the story points for this sprint, I looked at the source code to see what the best way to implement the MPLS matchfield implementation (worked 4 hours).
- What is planned to be done?
 1. I will continue to review the code and implement the MPLS Label match field first (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Had a meeting with the product owner to fix some problems from the last sprint and assigned some new user stories (worked 2 hours).
- What is planned to be done?
 1. Study about the Metadata and SCTP architecture for my user story implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight
Date: 6/30/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. Wrote down the pseudocode for all the ARP match field functions (worked for 5 hours).
- What is planned to be done?
 1. Implement and test the ARP SPA match field function (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I investigated the code in the basic_types.py of python-openflow repository to come up with the pseudo code for the IPv6 address class (worked 5 hours).
- What is planned to be done?
 1. I plan to implement the IPv6 address class (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I was able to work on and complete the first story point I was given and was able to finish the MPLS label implementation (worked 5 hours).
- What is planned to be done?
 1. I hope to work on the testing for the implementation and beginning to work on the next story point (planning for 6 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Studied on the metadata for my user stories (worked 2 hours).
- What is planned to be done?
 1. Study on the SCTP tomorrow so I can finish my process (planning for 2 hours).
- What are the Hurdles?
 1. None.

Sprint Backlog Grooming Meeting Minutes:

Project: AmLight

Date: 7/1/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:28PM

The following user stories were refined, weighted, and prioritized, ready for being scheduled in the following sprints:

- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.

Summary of other stuff discussed:

- Issues that are currently being handled by both Senior Project and Capstone I teams.
- Some questions on the IPv6 Class needed for the IPv6 Source and Destination match field functions.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/1/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:42PM

Cindy Perez:

- What was done?
 1. Implemented and tested the ARP SPA match field function (worked 5 hours).
- What is planned to be done?
 1. Implement and test the ARP TPA match field function (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I implemented the IPv6 address class (worked 5 hours).
- What is planned to be done?
 1. I plan to add the implementation of expanding the abbreviated IPv6 address (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I tested the MPLS label implementation and it was working (worked 2 hours).

- 2. I worked on the second implementation MPLS TC (worked 3 hours).
- What is planned to be done?
 - 1. I will test the TC implementation, and begin working on the next story point implementation (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Yuyang Leng:

- What was done?
 - 1. Implemented the Metadata match field function (worked 4 hours).
- What is planned to be done?
 - 1. Test the Metadata function and implement the SCTP source and destination (planning for 4 hours).
- What are the Hurdles?
 - 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/2/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:43PM

Cindy Perez:

- What was done?
 - 1. Implemented and tested the ARP TPA match field function (worked 5 hours).
- What is planned to be done?
 - 1. Implement and test the ARP SHA match field function (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Kenia Chang He:

- What was done?
 - 1. I added the implementation of expanding the abbreviated IPv6 address (worked 5 hours).
- What is planned to be done?
 - 1. I plan to implement the IPv6 source match field (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?

1. I finished the MPLS TC implementation today and tested (worked 2 hours).
2. I continued to work on the next implementation MPLS BOS (worked 3 hours).
- What is planned to be done?
 1. I will continue to work on the BOS implementation and test before the weekend (planning for 4 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Tested the Metadata match field function (worked 3 hours).
- What is planned to be done?
 1. Implement the SCTP Source and Destination match field functions (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/3/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:39PM

Cindy Perez:

- What was done?
 1. Implemented and tested the ARP SHA match field function (worked 5 hours).
- What is planned to be done?
 1. Implement and test the ARP THA match field function (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I implemented the IPv6 source match field (worked 5 hours).
- What is planned to be done?
 1. I plan to implement the IPv6 destination match field (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?

1. I finished implementing the MPLS BOS implementation and tested the story point (worked 4 hours).
- What is planned to be done?
 1. I will work on the last implementation I need to complete for the sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished implementing the SCTP Source match field function (worked 5 hours).
- What is planned to be done?
 1. Test the SCTP Source match field function and implement the SCTP destination match field function (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/6/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:41PM

Cindy Perez:

- What was done?
 1. I implemented and tested the ARP THA match field function (worked 5 hours).
- What is planned to be done?
 1. Push the code to our Github repo on a different branch and test it with my other teammates code to make sure my match field functions work (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I implemented the IPv6 destination match field (worked 5 hours).
- What is planned to be done?
 1. I plan to test and debug the code of IPv6 address class, IPv6 source and destination match fields (planning for 5 hours).
- What are the Hurdles?

1. None.

Jose Mercado:

- What was done?
 1. Today I began working on the Tunnel ID implementation (worked 4 hours).
- What is planned to be done?
 1. I hope to continue working on the Tunnel ID implementation and testing it by the end of the week (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Tested on the Metadata and SCTP but not going well (worked 3 hours).
- What is planned to be done?
 1. Planning to keep fixing on the errors and try to finish by tomorrow (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/7/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. Tested all four match fields in the same environment to double check they were all working (worked 5 hours).
- What is planned to be done?
 1. Implement and test the team code all together (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I tested and debugged the code of IPv6 address class, IPv6 source and destination match fields (worked 5 hours).
- What is planned to be done?
 1. I plan to integrate our team code and test all match fields implemented in this sprint (planning for 5 hours).

- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I worked on the Tunnel ID again today (worked 4 hours).
- What is planned to be done?
 1. I will finish up the implementation of Tunnel ID and test it (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Fixed some errors for metadata but still not working.(worked 4 hours).
- What is planned to be done?
 1. Finish fixing the errors.(planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/8/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:35PM

End Time: 8:44PM

Cindy Perez:

- What was done?
 1. We integrated the whole team member's code together into one Github repository (worked 5 hours).
- What is planned to be done?
 1. We plan on testing as a team our integrated Github repository with the latest match field functions (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on integrating my code this sprint with the team (worked 5 hours).
- What is planned to be done?
 1. I plan to test the integrated implementation of the match fields with my team

(planning for 5 hours).

- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I finished the Tunnel ID implementation match field (worked 1 hour).
 2. I worked on integrating my matchfield implementations with the rest of my group (worked 5 hours).
- What is planned to be done?
 1. I will finish implementing my code with the rest of my team so we can finish the story points we had for the sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished all of my work for this sprint but the mask of metadata (worked 5 hours).
- What is planned to be done?
 1. Have my metadata mask function work well (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/9/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I worked on testing our integrated code of all the match fields this sprint (worked 5 hours).
- What is planned to be done?
 1. Join the Review meeting with the product owner (planning for 1 hour).
 2. Go over what must be done for the next sprint with my team members (planning for 1 hour).
 3. Go over and finalize the pull request that must be sent to the Kytos developer (planning for 2 hours).
- What are the Hurdles?

1. None.

Kenia Chang He:

- What was done?
 1. I worked on testing our integrated code of all the match fields this sprint (worked 5 hours).
- What is planned to be done?
 1. I plan to discuss with the team about drafting the pull request properly according to the guide we were given before (planning for 1 hour).
 2. I plan to finalize our code and to start the draft pull request for this sprint on GitHub (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I worked on testing the code we integrated for the sprint (worked 5 hours).
- What is planned to be done?
 1. I plan to discuss what will be the next step forward for our team and finalize the code to the GitHub (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I worked on testing the code we integrated for the sprint (worked 5 hours).
- What is planned to be done?
 1. I plan to discuss what will be the next step forward for our team and finalize the code to the GitHub (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 7/10/20

Attendees: Cindy Perez, Kenya Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:31PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 25: As a user, I want to use the IPV6 Source as one of the match fields for

my flow, so that I can utilize the OpenFlow v1.3 more realistically.

- User Story 26: As a user, I want to use the IPV6 Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 35: As a user, I want to use the Metadata as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 36: As a user, I want to use the SCTP Source as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 37: As a user, I want to use the SCTP Destination as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 39: As a user, I want to use the ARP SPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 40: As a user, I want to use the ARP TPA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 41: As a user, I want to use the ARP SHA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 42: As a user, I want to use the ARP THA as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 43: As a user, I want to use the MPLS Label as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 44: As a user, I want to use the MPLS TC as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 45: As a user, I want to use the MPLS BOS as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 47: As a user, I want to use the Tunnel ID as one of the match fields for my flow, so that I can utilize the OpenFlow v1.3 more realistically.
- User Story 48: As a developer, I want to test the implementation for the second half of issue #77, so that I can make sure it is working for the users.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/10/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:36PM

Cindy Perez:

- What was done?
 1. I discussed within the team about drafting the pull request properly as shown in

- the pull request guide (worked 1 hour).
- 2. I finalized our code to GitHub to be ready for drafting current sprint's pull request (worked 4 hours).
- What is planned to be done?
 1. I plan to start looking into the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I discussed within the team about drafting the pull request properly as shown in the pull request guide (worked 1 hour).
 2. I finalized our code to GitHub to be ready for drafting current sprint's pull request (worked 4 hours).
- What is planned to be done?
 1. I plan to start looking into the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Today I discussed with the team the drafting for the pull requests (worked 1 hours).
 2. We finalized GitHub to make sure it is ready for pull request (worked 4 hours).
- What is planned to be done?
 1. I plan to start working on the next issue, the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Talked with the Product Owner and the team and figured out a plan to do the pull request (worked 2 hours).
- What is planned to be done?
 1. Working on IPv6 packet (planning for 2 hours).
- What are the Hurdles?
 1. None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 7/10/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:36PM

End Time: 8:41PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes, we did a good job estimating our velocity.
- Did we do a good job estimating the points (time required) for each user story?
 - Yes, each user story was well estimated.
- Did each team member work as scheduled?
 - Yes, each team member worked as scheduled.

What went right?

- Great team communication between team members.
- Great communication between team members and the Kytos developers.
- Time management was amazing this sprint, and many more tests could be done to double check team members' individual work.

How to address the issues in the next sprint?

- How to improve the process?
 - Consolidate all of the team's code into one Github repository for the pull request according to the Kytos development standards.
- How to improve the product?
 - Work on implementing the IPv6 packet structure.

Sprint 5

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 7/13/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:37PM

After discussion, the velocity of the team was estimated to be $4 \times 25 = 100$ hours per week.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- Not applicable, since this is the last sprint for development.

The team members indicated their willingness to work on the following user stories:

- Cindy Perez
- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.
- Kenia Chang He
- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.
- Jose Mercardo
- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.
- Yuyang Leng
- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.

Summary of other stuff discussed:

- None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/13/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:37PM

End Time: 8:45PM

Cindy Perez:

- What was done?
 1. Reviewed how IPv6 headers are sent as packets and reviewed the already existing IPv4 packet structure (worked 5 hours).
- What is planned to be done?
 1. Come up with a plan with my teammates on what has to be implemented (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on putting the pull request of our code last sprint on GitHub (worked 1 hour).
 2. I looked into the details about IPv6 packet structure and also the implementation of other packets in the `network_types.py` file in `python-openflow` for getting the idea of IPv6 packet implementation (worked 4 hours).
- What is planned to be done?
 1. I plan to start writing the pseudo code for implementing the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Today I reviewed IPv6 headers for packets to get ready for the current sprint goals (worked 5 hours).
- What is planned to be done?
 1. Look into the goal we are going to make for our sprint (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Did the pull request on github and learned about IPv6 structure for further implementation (worked 2 hours).
- What is planned to be done?
 1. Keep learning on IPv6 (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/14/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I worked on an implementation for the IPv6 packet structure, but I got some errors, so I will be double checking with teammates (worked 5 hours).
- What is planned to be done?
 1. Work on my implementation and talk with my teammates (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on the pseudo code for the IPv6 packet structure (worked 5 hours).
- What is planned to be done?
 1. I plan to start implementing the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I continued to look over the IPv6 packet structure for implementation (worked 5 hours).
- What is planned to be done?
 1. I plan to start implementing the packet structure after our meeting with the Product Owner (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Keep learning on the IPv4 (worked 2 hours).
- What is planned to be done?
 1. Plan to start implementing the IPv6 packet (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Backlog Grooming Meeting Minutes:

Project: AmLight

Date: 7/15/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:20PM

The following user stories were refined, weighted, and prioritized, ready for being scheduled in the following sprints:

- None, since this is the last sprint for development.

Summary of other stuff discussed:

- Deliverables that need to be done by the end of Sprint 5.
- Presentation to be done that is the same as the Video for the project.
- Questions about some of the issues and how to test our implementation.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/15/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:37PM

Cindy Perez:

- What was done?
 1. I tried to rework my implementation of the IPv6 packet structure, but I keep getting errors when trying to run Kytos. I think I know the problem, and I will just fix it (worked 5 hours).
- What is planned to be done?
 1. Test the IPv6 packet structure implementation I have, and if not, then talk with my teammates about their own implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on implementing the IPv6 packet structure (worked 5 hours).
- What is planned to be done?
 1. I plan to start testing the implementation of the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I started working on the implementation for the IPv6 structure based on what I researched (worked 5 hours).
- What is planned to be done?
 1. I will continue to work on the implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. I have implemented some of the IPv6 structure (worked 5 hours).
- What is planned to be done?
 1. I would keep working on the implementation for IPv6 (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/16/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:48PM

Cindy Perez:

- What was done?
 1. I worked on fixing the errors I had with my implementation of IPv6 packet structure (worked 5 hours).
- What is planned to be done?
 1. I will test the IPv6 packet structure implementation and discuss the details with my teammates (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on trying to test the IPv6 packet structure using WireShark (worked 5 hours).
- What is planned to be done?
 1. I plan to test the IPv6 packet structure by following the unit test example for IPv4 packet and to perform the unit test for IPv6 packet (planning for 5 hours).

- What are the Hurdles?
 1. I was not able to test the implementation of the IPv6 packet structure with WireShark.

Jose Mercado:

- What was done?
 1. I continued to work on the IPv6 packet implementation (worked 5 hours).
- What is planned to be done?
 1. I will continue to work on the implementation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Keep working on IPv6 implementation (worked 3 hours).
- What is planned to be done?
 1. Continue to work on the IPv6 packet structure (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/17/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:41PM

Cindy Perez:

- What was done?
 1. I worked on the IPv6 packet implementation, and looked at the final product to make sure it worked (worked 5 hours).
- What is planned to be done?
 1. I plan to work on the final deliverables (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on writing the unit test code for the IPv6 packet (worked 3 hours).
 2. I worked on testing and debugging the implementation of the IPv6 packet structure via the unit test (worked 2 hours).
- What is planned to be done?

- 1. I plan to work on preparing the final deliverables (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?
 - 1. I worked on the IPv6 packet implementation, and looked at the final product to make sure it worked (worked 5 hours).
- What is planned to be done?
 - 1. I plan to work on the final deliverables (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Yuyang Leng:

- What was done?
 - 1. Implemented the IPv6 packet and discussed with my teammates about the code (worked 5 hours).
- What is planned to be done?
 - 1. Plan to work on the final deliverables for our project (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/20/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:39PM

Cindy Perez:

- What was done?
 - 1. I worked on looking through the templates for deliverables to understand what is due (worked 5 hours).
- What is planned to be done?
 - 1. Talking with my teammates and splitting up the work for the deliverables (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Kenia Chang He:

- What was done?
 - 1. I worked on organizing the documents and to start on the final deliverables

(worked 5 hours).

- What is planned to be done?
 1. I plan to have the Code part of the final deliverables ready (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I went over the expectations of the deliverables given to us so as to start working on them with my team (worked 5 hours).
- What is planned to be done?
 1. I will work on the deliverables along with my team (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Went over the new post on Microsoft Teams to see the expectations of deliverables (worked 4 hours).
- What is planned to be done?
 1. Work on the deliverables with my team (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/21/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:42PM

Cindy Perez:

- What was done?
 1. I started working on the Final Project Documentation deliverable (worked 5 hours).
- What is planned to be done?
 1. Keep working on the Final Project Documentation and work on my use case diagram (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I discussed with my teammates about the final deliverables to assign the works between us (worked 0.5 hour).
 2. I organized and pushed the source code of our final product onto BitBucket (worked 0.5 hour).
 3. I completed the Use Case diagram for the match and match fields of our final product (worked 1 hour).
 4. I completed the Class diagram for the match and match fields of our final product (worked 2 hours).
 5. I completed the Sequence diagram for the match and match fields of our final product (worked 1 hour).
- What is planned to be done?
 1. I plan to complete the deployment diagram and the architectural diagram for our final product (planning for 1 hour).
 2. I plan to work on the installation guide for our final product (planning for 2 hours).
 3. I plan to work on the user manual for our final product (planning for 2 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I began working on the presentation for the final deliverables and have helped with the final report (worked 5 hours).
- What is planned to be done?
 1. I will continue to work on the final presentation hopefully finishing by the end of the week (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Reviewed about the implementations we did before to prepare for the UML diagram (worked 5 hours).
- What is planned to be done?
 1. Draw the UML diagram and be prepared for the presentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/22/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:42PM

Cindy Perez:

- What was done?
 1. Finalizing the final project documentation (worked 5 hours).
- What is planned to be done?
 1. Work on my individual UML and keep finalizing the final project documentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I completed the package diagram for our final product (worked 0.5 hour).
 2. I completed the deployment diagram for our final product (worked 0.5 hour).
 3. I worked on the installation guide for our final product (worked 2 hours).
 4. I worked on the user manual for our final product (worked 2 hours).
- What is planned to be done?
 1. I plan to revise my use case, class, and sequence diagrams (planning for 2 hours).
 2. I plan to help work on the presentation (planning for 2 hours).
 3. I plan to help work on the documentation (planning for 1 hour).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Today I continued to work on the final presentation (worked 5 hours).
- What is planned to be done?
 1. I will continue to work on the presentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Keep working on the UML diagram (worked 4 hours).
- What is planned to be done?
 1. Start working on the final presentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/23/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I finalized almost all of the final product documentation (worked 5 hours).
- What is planned to be done?
 1. I plan to record the audio for the videos for our final product (planning for 3 hours).
 2. I plan on finishing my UML diagrams (planning for 2 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on revising the UML diagrams to convey the works more accurately (worked 2 hours).
 2. I worked on rebasing and resolving the merged conflicts for the last pull request in the of_core repository (worked 2 hours).
 3. I updated the three pull requests involving IPv6 according to the feedback received (worked 1 hour).
- What is planned to be done?
 1. I plan to record the videos for our final product (planning for 3 hours).
 2. I plan to help finish the presentations (planning for 2 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I added the sprint stories to the presentation and continued to work on it (worked 5 hours).
- What is planned to be done?
 1. I hope to be able to finish the presentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Worked on UML diagrams (worked 5 hours).

- What is planned to be done?
 1. Work on the final presentation (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 7/24/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 3:00PM

End Time: 3:32PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 49: As a developer, I want to implement the IPv6 packet structure, so that the IPv6 packets can be used.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/24/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:38PM

Cindy Perez:

- What was done?
 1. I worked on my UML diagrams (worked 5 hours).
- What is planned to be done?
 1. Finish the UML diagrams and start recording the audio for the videos (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I recorded the videos for our final product (worked 3 hours).

- 2. I helped with finishing the presentation (worked 2 hours).
- What is planned to be done?
 - 1. I plan to help with finishing the documents and push them to our BitBucket repository (planning for 3 hours).
 - 2. I plan to start working on my poster (planning for 2 hours).
- What are the Hurdles?
 - 1. None.

Jose Mercado:

- What was done?
 - 1. I continued to work on the presentation (worked 5 hours).
 - 2. I began to work on the UML diagram (worked 1 hour).
- What is planned to be done?
 - 1. I plan to work through the weekend to complete everything I need for the presentation (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Yuyang Leng:

- What was done?
 - 1. Working on the UML diagram (worked 5 hours).
- What is planned to be done?
 - 1. Plan to help on the final presentation (planning for 5 hours).
- What are the Hurdles?
 - 1. None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 7/24/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:39PM

End Time: 8:43PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes, the team followed the velocity very well.
- Did we do a good job estimating the points (time required) for each user story?
 - Yes, the user stories were done on time.
- Did each team member work as scheduled?
 - Every team member worked way ahead of schedule.

What went right?

- Team communication and speed was very good; the team also finished work ahead of

schedule.

- Putting up the final deliverables on google docs so that all the team members could come and change things as needed was a good idea.

How to address the issues in the next sprint?

- How to improve the process?
 - Next sprint is dedicated to finishing the final deliverables.
- How to improve the product?
 - Next sprint is dedicated to finishing the final deliverables.

Sprint 6

Sprint Planning Meeting Minutes:

Project: AmLight

Date: 7/27/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:39PM

After discussion, the velocity of the team was estimated to be $4 \times 25 = 100$ hours per week.

The product owner chose the following user stories to be done during the next sprint. They are ordered based on their priority:

- None.

The team members indicated their willingness to work on the following user stories:

- Cindy Perez
- User Story 51: As a user, I want to watch a demo video about the match fields and the IPv6 packet implemented, so that I can use these implementations knowing their functionalities.
- Kenia Chang He
- User Story 51: As a user, I want to watch a demo video about the match fields and the IPv6 packet implemented, so that I can use these implementations knowing their functionalities.
- Jose Mercardo
- User Story 51: As a user, I want to watch a demo video about the match fields and the IPv6 packet implemented, so that I can use these implementations knowing their functionalities.
- Yuyang Leng
- User Story 51: As a user, I want to watch a demo video about the match fields and the IPv6 packet implemented, so that I can use these implementations knowing their functionalities.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/27/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:40PM

End Time: 8:46PM

Cindy Perez:

- What was done?
 1. Finished the document (worked 5 hours).
- What is planned to be done?
 1. Add my UML diagrams (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on the statechart diagram for our product (worked 2 hours).
 2. I worked on finishing and reviewing the presentation slides (worked 3 hours).
- What is planned to be done?
 1. I plan to attend the VIP Teams presentation meeting starting at 4:00PM tomorrow (planning for 2 hours).
 2. I plan to work on my poster for the project (planning for 3 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Today I worked on the UML diagrams and finished 2 (worked 5 hours).
- What is planned to be done?
 1. I plan to work on the diagrams that I am missing and present for our team during the meeting tomorrow (planning for 6 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Working on the rest part of the presentation (worked 3hours).
- What is planned to be done?
 1. Keep working on the deliverable files (planning for 4 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/28/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.
Start Time: 8:30PM
End Time: 8:36PM

Cindy Perez:

- What was done?
 1. I attended the VIP Teams presentation meeting (worked 2 hours).
 2. I worked on my UML diagrams (worked 3 hours).
- What is planned to be done?
 1. Finish my UML diagrams (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I attended the VIP Teams presentation meeting (worked 2 hours).
 2. I started working on my poster for the project (worked 3 hours).
- What is planned to be done?
 1. I plan to continue working on my poster (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Practiced and presented for the VIP Teams presentation meeting (worked 5 hours).
- What is planned to be done?
 1. Finish UML diagrams (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Had the presentation with the product owner and worked on UML diagram (worked 5 hours).
- What is planned to be done?
 1. Finish my UML diagram and start working on the poster (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/29/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:35PM

Cindy Perez:

- What was done?
 1. Recorded the audio for the User Manual match field video, and started to edit the audio to match the video (worked 4 hours).
 2. Started working on the UML diagrams (worked 1 hour).
- What is planned to be done?
 1. Record and edit the User Manual IPv6 packet video and the Installation Guide video (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on writing my contribution on my poster (worked 5 hours).
- What is planned to be done?
 1. I plan to work on the pictures on my poster (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. Continued on the UML Diagrams and started to look into recording the videos I need to record (worked 5 hours).
- What is planned to be done?
 1. I will record the videos and then finish any diagrams (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Worked on the poster (worked 5 hours).
- What is planned to be done?
 1. Finish all deliverable tomorrow (planning for 5 hours).
- What are the Hurdles?
 1. None.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/30/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:40PM

End Time: 8:44PM

Cindy Perez:

- What was done?
 1. Finished my UML diagrams and added them to the document (worked 3 hours).
 2. Finished my poster (worked 2 hours).
- What is planned to be done?
 1. Finish the YouTube videos and the document figures (planning for 5 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I finished my poster for the project (worked 5 hours).
- What is planned to be done?
 1. I plan to review and finalize the deliverables on BitBucket (planning for 5 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I was able to finish the UML diagrams, and I started working on the videos (worked 5 hours).
- What is planned to be done?
 1. I will finish the videos and finish the board (planning for 5 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Worked on the Use Case Diagram (worked 5 hours).
- What is planned to be done?
 1. Finish the poster (planning for 5 hours).
- What are the Hurdles?
 1. None.

Sprint Review Meeting Minutes:

Project: AmLight

Date: 7/30/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:44PM

End Time: 8:48PM

After a show and tell presentation, the implementation of the following user stories were accepted by the product owners:

- User Story 51: As a user, I want to watch a demo video about the match fields and the IPv6 packet implemented, so that I can use these implementations knowing their functionalities.

The following ones were rejected and moved back to the product backlog to be assigned to a future sprint at a future Sprint Planning meeting:

- None.

Sprint Retrospective Meeting Minutes:

Project: AmLight

Date: 7/30/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercardo, and Yuyang Leng.

Start Time: 8:51PM

End Time: 8:57PM

What went wrong?

- Did we do a good job estimating our team's velocity?
 - Yes, we did a good job estimating our team's velocity.
- Did we do a good job estimating the points (time required) for each user story?
 - Yes, the user story was estimated correctly.
- Did each team member work as scheduled?
 - Yes, each member worked as scheduled.

What went right?

- Team communication went well, and it was smart to record the audio and video separately in order to edit them in an easier way.

How to address the issues in the next sprint?

- How to improve the process?
 - This is the last sprint for the development of this project.
- How to improve the product?
 - This is the last sprint for the development of this project.

Daily Standup Meeting Minutes:

Project: AmLight

Date: 7/31/20

Attendees: Cindy Perez, Kenia Chang He, Jose Mercado, and Yuyang Leng.

Start Time: 8:30PM

End Time: 8:40PM

Cindy Perez:

- What was done?
 1. I finished the last YouTube videos and fixed the style of the final documentation (worked 5 hours).
- What is planned to be done?
 1. This is the last day of the sprint for the project (planning for 0 hours).
- What are the Hurdles?
 1. None.

Kenia Chang He:

- What was done?
 1. I worked on finalizing the deliverables on BitBucket (worked 5 hours).
- What is planned to be done?
 1. This is the last day of the project (planning for 0 hours).
- What are the Hurdles?
 1. None.

Jose Mercado:

- What was done?
 1. I finished the videos I needed to do (worked 5 hours).
- What is planned to be done?
 1. This is the last day of the project (planning for 0 hours).
- What are the Hurdles?
 1. None.

Yuyang Leng:

- What was done?
 1. Finished my UML diagrams and my poster (worked 5 hours).
- What is planned to be done?
 1. This is the last day of the project (planning for 0 hours).
- What are the Hurdles?
 1. None.