

# VIP/Senior Project Final Presentation

## Fall 2018

# Aeromedical Evacuation App 1.0

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<date of the presentation>

# Problem definition

- Whole Project:
  - The Aeromedical Evacuation training program at the FIU academy for disaster preparedness is a short two week training program encompassing a wealth of knowledge.
  - Participants in this training program have been asking for advanced access to lecture material, but currently material is spread across several locations.
  - Lecture material at the moment consists solely of powerpoint presentations.
- My Part:
  - Creating a visual interface and design for the application
  - Implementing the Cardiovascular lecture
  - Implementing the Movement lecture
  - Implementing the Traumatic Brain Injury lecture

# Project Management

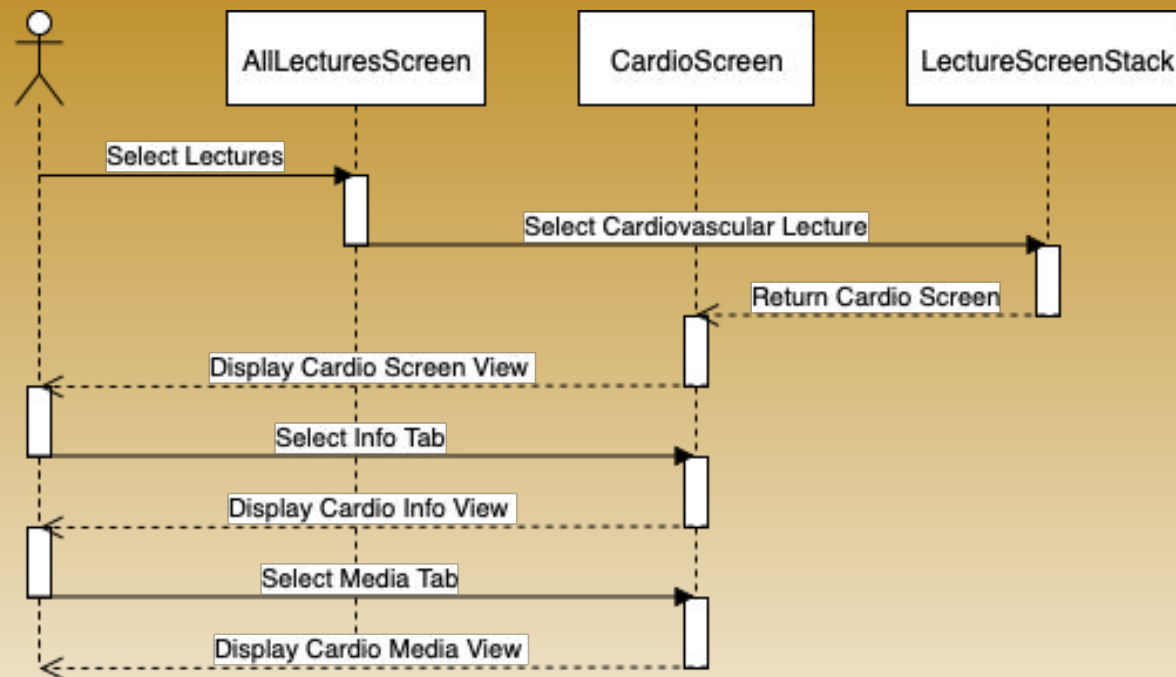
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# Requirements: User Stories

- User Story AEVA - 43: View information for cardiovascular lecture
  - As a user, I would like to view the cardiovascular lecture information so that its easy to access and understand
- User Story AEVA - 44: View information for Traumatic Brain Injury lecture
  - As a user, I would like to view the traumatic brain injury lecture information so that its easy to access and understand

# Requirements: Use Cases

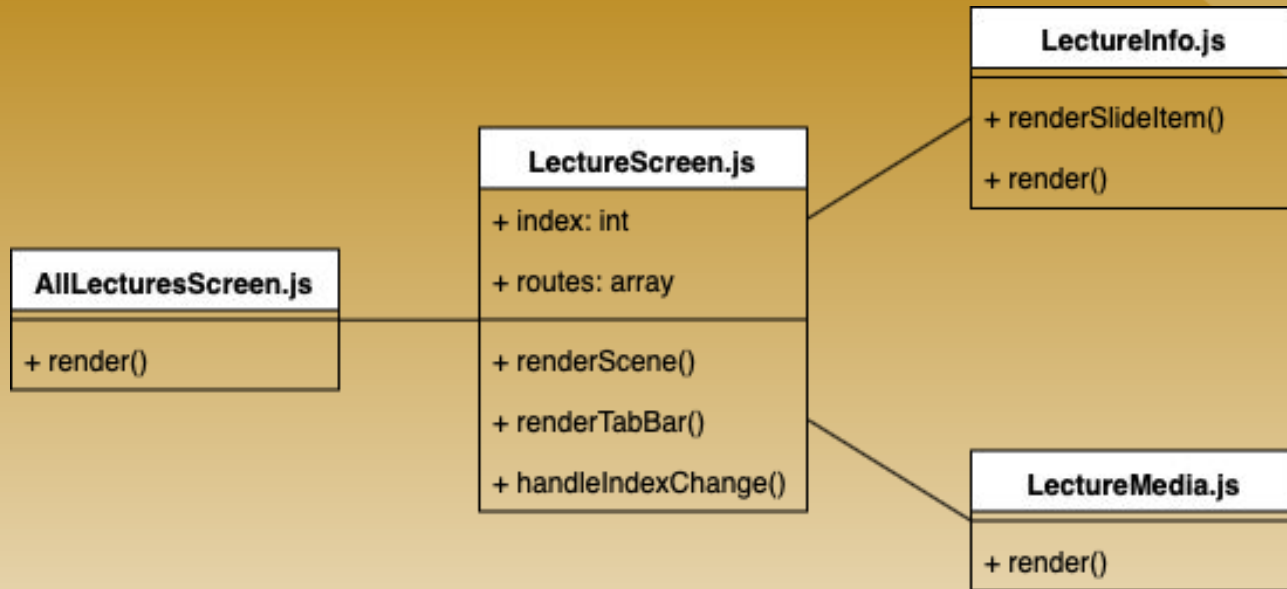
# Requirements: Sequence Diagrams



# System Design

- The system was designed using persistent data.
- Images and all documents are stored locally on the device

# Minimal Class Diagram





# **User Interface & Experience**

**User**

Students & First Responders

# **Needs**

Centralized

Organized

Quickly Accessible

Easy to Read

Always Available



**AEROMEDICAL**  
E V A C U A T I O N





< Back

## Lectures



**CARDIO  
VASCULAR**



**CRITICAL  
RESPONSE**



**PATIENT  
MOVEMENT**



**RESPIRATORY**



HOME



ORGAN SYSTEMS



LECTURES



FAVORITES

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## Lectures



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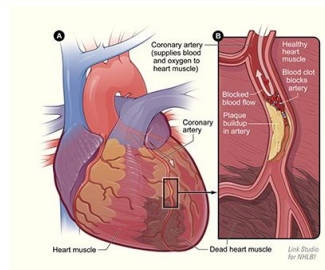
FAVORITES



### ***Cardiovascular Disease: Mission Planning***

- Guidelines assume cath/CABG available  
**In Air Transport, they often aren't!**
- Appropriate workup and management been accomplished?
- What complications do I need to plan for?
- What medications do I need to get before takeoff?

### ***Pathophysiology***



## ***Aeromedical Considerations for Patients with Neurologic Injuries***



### ***TBI Classification***

#### **Glasgow Coma Scale (GCS)**

- Best score for intubated patient is 4T6 = 11T
- GCS<9 = Intubate before flight
- Indicator of severity of injury
  - 3 to 8 (severe)
  - 9 to 12 (moderate)
  - 13 to 15 (mild)

|   | Eye         | Verbal     | Motor            |
|---|-------------|------------|------------------|
| 1 | None        | None       | Flaccid          |
| 2 | With pain   | Incoherent | Extension        |
| 3 | To verbal   | Mumbles    | Flexion          |
| 4 | Spontaneous | Confused   | Withdraws        |
| 5 |             | Oriented   | Localizes        |
| 6 |             |            | Follows commands |



HOME



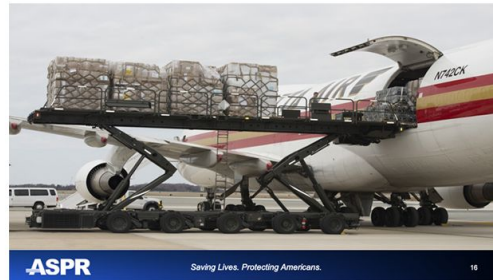
ORGAN SYSTEMS



LECTURES



FAVORITES



### Federal Patient Movement

- Progression through 3 – Levels
  - Local
    - Day to day operations, local EMS dispatch, patient tracking by EMS
  - State
    - Support local requests, State EOC, Centralized coordination
    - National FEMA Ambulance Contract
      - 300 ground ambulances, rotary & fixed wing aircraft, paratransit
  - Federal
    - Focus is on "worst case scenario" where state and local medical responders are overwhelmed



# Summary

- My contribution to this project along with creating summaries of lecture content, was creating a modern and intuitive user interface
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- Questions?
- Thank You!