

Problem

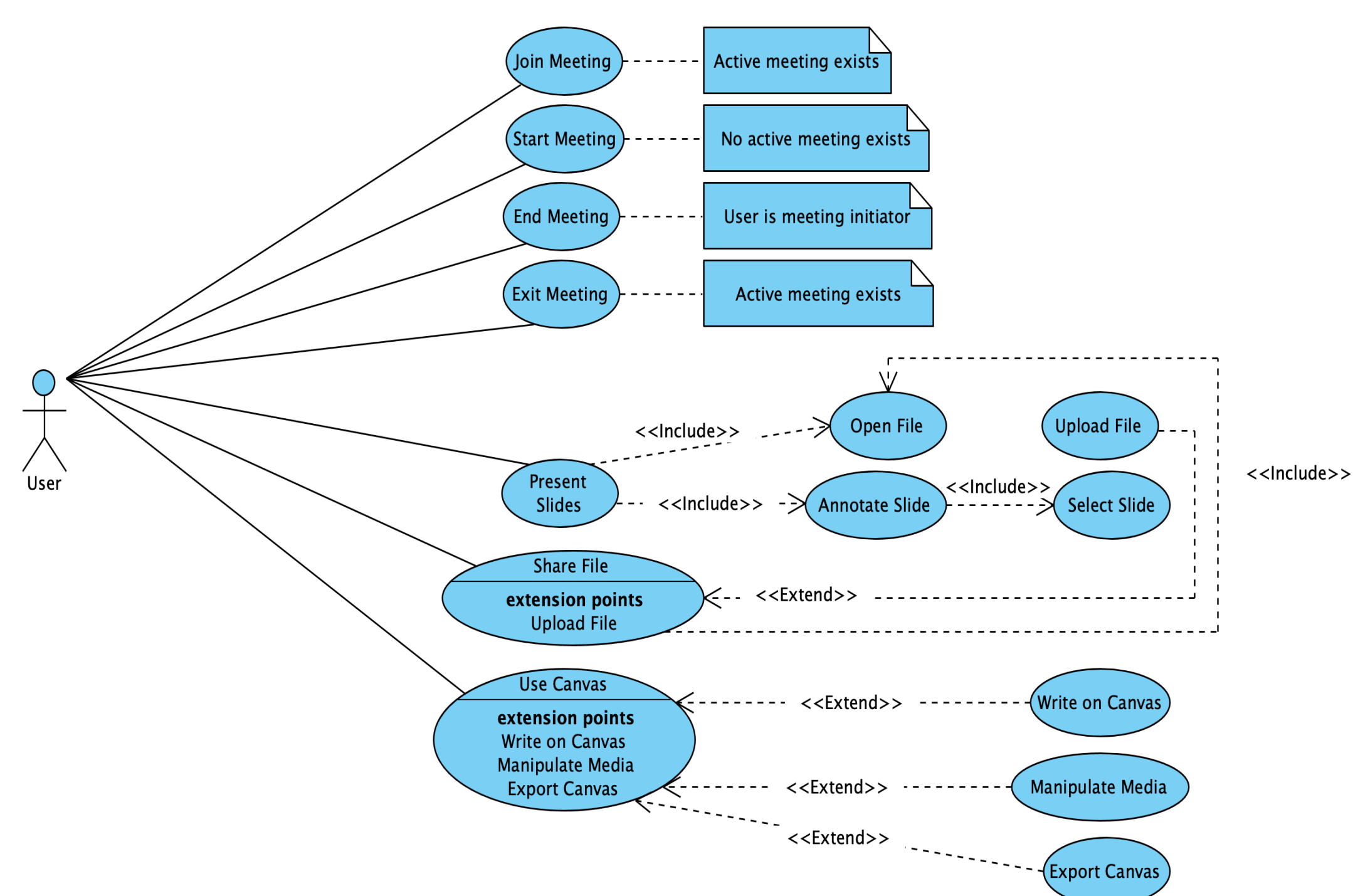
As technology takes over meeting and conference rooms, the desk remains unchanged and offline. This can reduce interaction and engagement which can decrease productivity and lower the effectiveness of the event.

Solution

Interactive Smart Table (IST) is a table for the conference or meeting room that connects every member together through a smart display on every desk sit. The smart display is powered by the Interactive Smart Table Software Suite; a collaboration suite that provides a shared canvas, file sharing and slide presentation capabilities enabling the event members to be more engaged and productive.

Requirements

- Users on a table can start a meeting or join/exit an existing one. Only the meeting initiator can end the meeting.
- Only the meeting initiator is able to present. All meeting members can annotate the current presentation slide.
- Users can use the canvas to collaborate in real time.
- The application is required to be stateful. Users can switch between components (canvas, file sharing, presentation) while preserving their previous state.
- Application is required to synchronize all events across the network using a hybrid p2p architecture

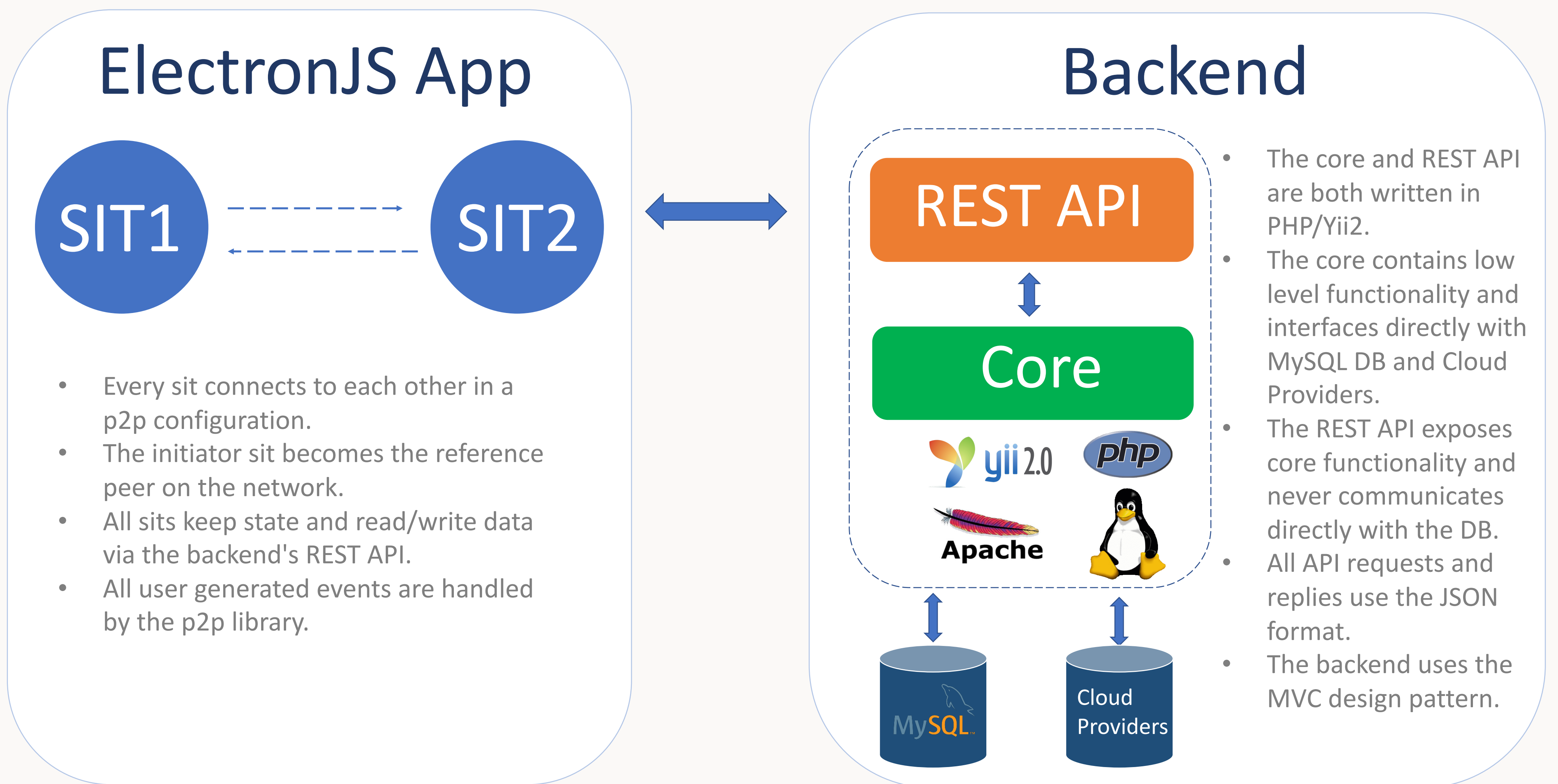


Acknowledgements

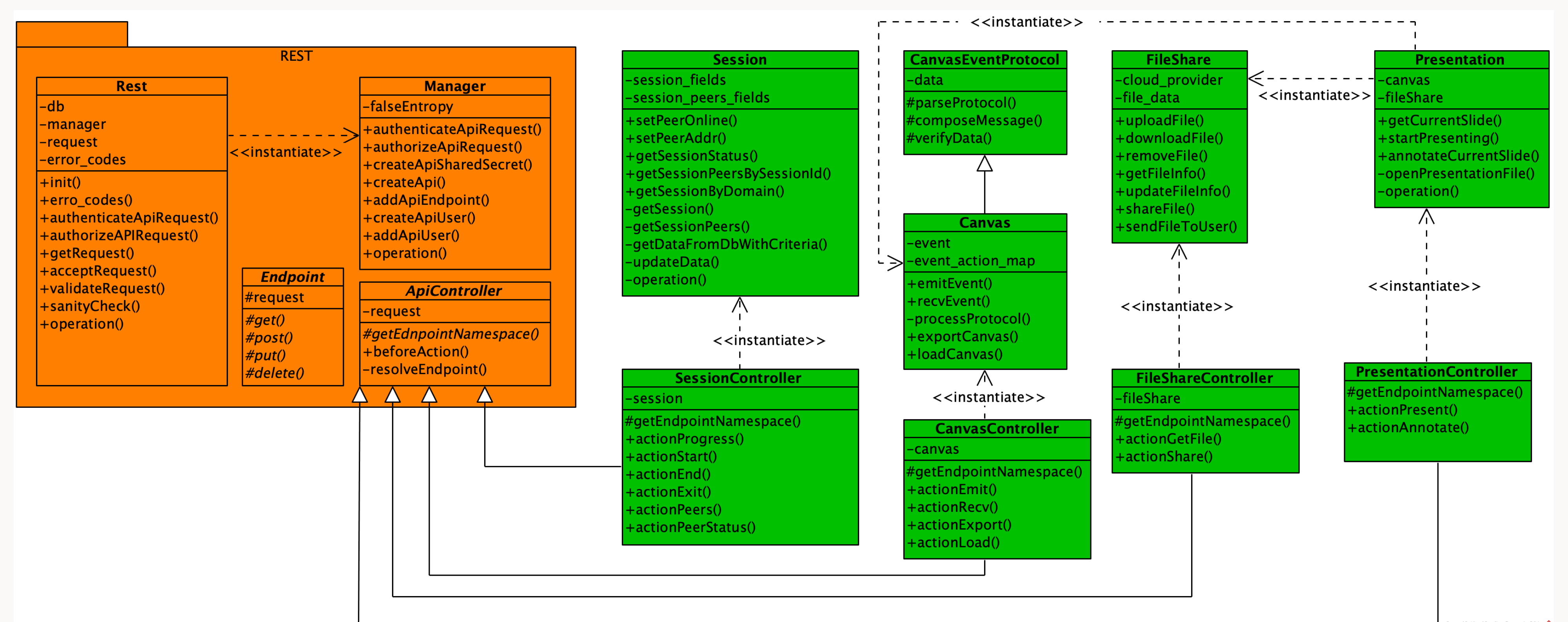
I would like to thank the School of Computer Science at FIU for providing the tools necessary to create this project. I also like to thank the school of Architecture and the Robotics Lab (RDF) for providing the materials for the prototype.

Design

Overview



High Level Class Diagram

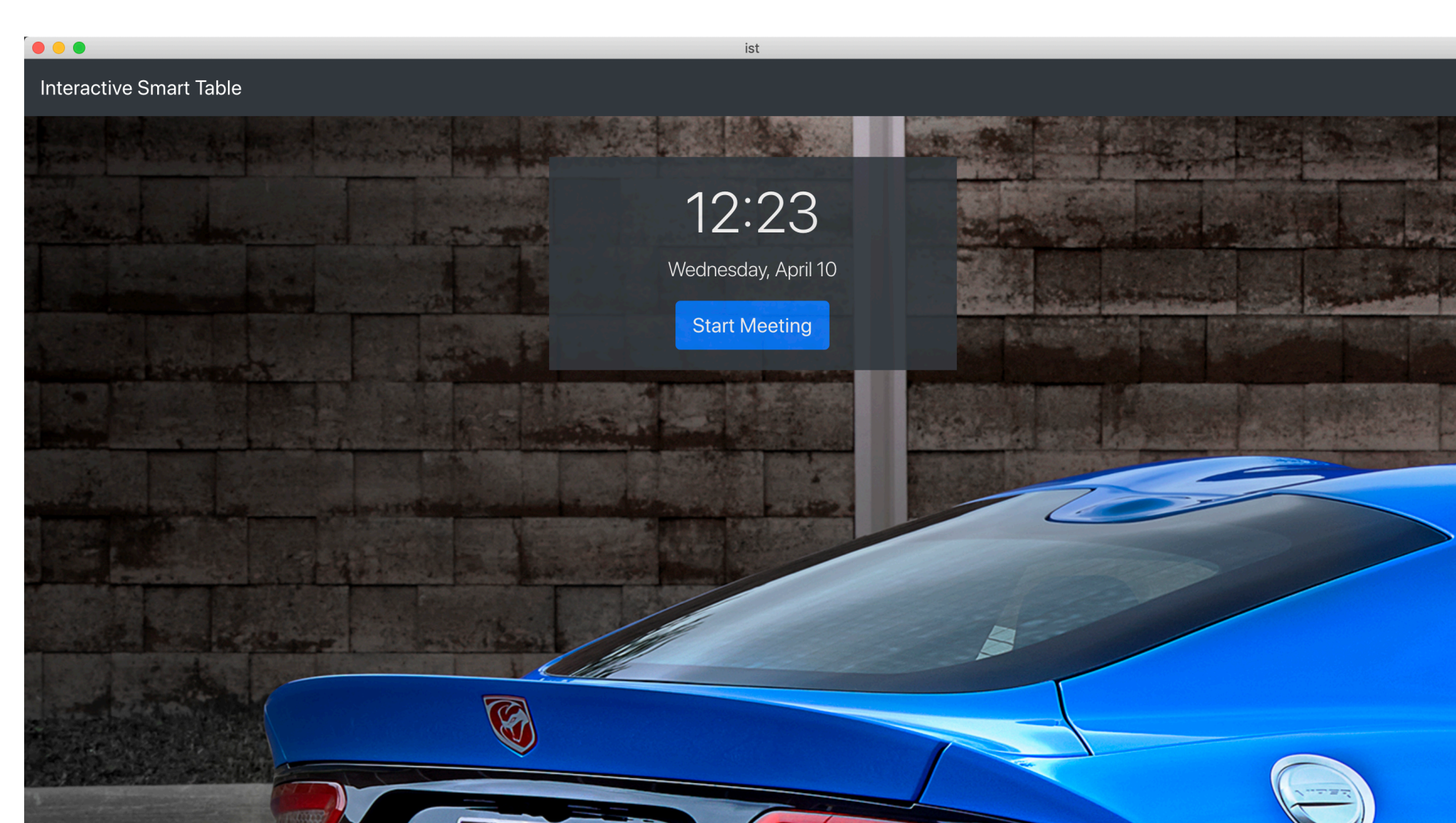


- All user events are sent to the backend through the REST API using JSON as the request data format.
- The application consumes the backend replies asynchronously and updates the UI accordingly.
- The diagram shows how the Core of the application exposes its functionality through the REST component.

Current & Summary

Current System

- High portability and design efficiency allows the software suite to run on any platform that supports ElectronJS, decoupling the table design from the software that powers it.
- The backend subsystem is running on a Google Cloud VM instance and is fully operational.
- The application runs on prototype platform composed of a Raspberry PI 3 Model B+ connected to a Raspberry PI 7" touch screen.



Summary

- Increased meeting Interaction and engagement by connecting all meeting members via the Interactive Smart Table Software Suite.
- File sharing and Canvas component allow the user to contribute in real time while in a meeting.
- Users can record a canvas session for later playback.
- Users can export and save current Canvas.

