Progress

Application Development

A large chunk the application has been developed. This includes all the HTML5, PHP and JavaScript code for the main functions of the application, which interacts with a database to populate the application with information.

General

The login page directs the user to the student/lecturer application depending on their account type. The main application currently does not use an actual account to populate the information on each side, but this is easily fixed and remains this way for testing purposes only.

Student Side

In the student application, a list of enrolled classes appears on the welcome page, populated from the database. Clicking on one of these classes opens a list of lectures, also populated from the database. Similarly, clicking on one of these lectures will open a list of questions available for this class and lecture. Again, clicking on one of these questions will show a questions page populated with the information of the current question, including the button layout.

These buttons submit the value of their selves to the database for comparison with the current answer value. It also adds an entity into the "responses" table, for use with the Lecturer's "responses" page, described below.

Lecture Side

Similar to the student application, but shows classes which the lecturer owns. A similar hierarchy is implemented here, but with options to edit the classes/lectures/questions are features throughout, although at this point, there is no way of editing this information other than to do it manually in the database.

There is also a "responses" page implemented where lecturers can see responses to their questions in real time using Chart.js.

Alterations

Wi-Fi Direct

After attempts to get wifi direct to do what is required of it for use as an access point to host this Web Application, it appeared that it had a lot of issues performing this. An alternative to this was also tested, "HostAPD", which turns the Raspberry Pi into a Wi-Fi access point, but there was also issues with this to do with constant disconnecting, and possible issues with user's devices not being able to access the internet when connected to this device, which is undesirable.

At this point, the likely implementation is a remote server hosting the Web Application, with students accessing it via their web browsers like a normal website. This implementation also allows for even less dedicated hardware to be used in the setup of this service, which is an aim of this project.

Dotti Display

There was an issue with obtaining a dotti display for use in visualisation. However, after discussion with Marc Roper about alternatives, it was decided that an additional page in the Lecturer Application could be used to display the information in a more flexible way, using Chart.js. This also allows even less dedicated hardware to be used in the service.

Report Structure

Meetings

30/10/15

Initial meeting, discussed visions for implementation.

06/11/15

Discussion about project spec and plan.

13/11/15

Discussion about issues with wi-fi direct, limits, compatibility and usefulness, etc.

26/11/15

Issues with dotti availability, possible homebrew alternatives. Discussed how connection method is not critical at this point, and focus should be on developing the application.

02/11/15

Discussed evaluation, which is to be done with a live preview in a real setting. Possible initial data gathering through use of surveys to lecturers to see issues with "clickers".

03/12/15

Talked project spec/plan. Evaluation ideas mainly.

05/01/16

Discussed evaluation and progress. HostAPD may be out of the question, but alternative uses of pi was discussed. Evaluation was discussed, likely after a prototype is developed. Aim for end of January.

29/01/16

More discussion on evaluation, going with the idea of a live lecture environment.