**AGORA Student Marketplace**

**Feasibility Study**

**16/07/2020**

**Practicality:**

As of current, we are looking to use a Javascript framework named ReactJS. We have identified this tool to be capable of creating our front-end. We have recognised there will be a learning curve to this tool but are feeling confident that all members will be able to adapt and learn this tool via online tutorials, teamwork and help from team members as well as previous Javascript knowledge. Having five team members and a project timeline of around 11 weeks allows us to create a progress timeline as well. Here we can plan ahead for milestones and deadlines for deliverables. This feasibility study is the first instance of our group using agile methodology which we plan to frame the remainder of the project around. Use of SCRUM meetings are planned to occur at least once a week; as the project continues and deadlines approach more quickly, there most likely will be a need to hold more SCRUM meetings to better visualise the teams progress towards set goals. Resources available to us are further outlined below but consist of four in class hours with one hour reserved solely for project work. Within the scheduled class hours there are mentoring sessions for 20 minutes between our group and our mentor in which we are provided help and guidance with our project.

**Technical:**

We plan to use a variety of technologies that work cohesively together for full-stack development. For the front-end we will use Javascript using a framework called ReactJS. This is an advantageous framework to use as it allows us to create interactive UIs and simple page displays for states. We will also use Redux which is a state management tool to assist us in writing an application that behaves consistently. In terms of styling and formatting we will use CSS3 with Flexbox to ensure it is responsive on all devices. For the back-end we will use a framework called Node.js and Express.js which provides a run-time environment to host the application and communicate with external services. The database we will use is MongoDB which is a NoSQL, document-oriented platform that is easy to use and provides massive scalability. Although this is an unstructured language, we will still plan and design our ERD’s appropriately to define tables and attributes.

**Operations:**

The application will run as a web service. Once a user has created an account and been verified by our automated system they will be able to both sell items and view listings by other users. To list an item the user will enter relevant details about the item such as name, price, and condition along with a photo and then wait for our staff to check it isn’t spam or illegal. To view other items the user will be able to browse a page with all listings, as well as be able to search with keywords, or by entering desired categories. Hypothetically the connection to the database will be showing up-to-date information about listings and their availability.

**Schedule:**

Project development will be guided on schedule by carefully managing time with the help of shared documents available to all members and communication within the team.

The team will plot for a substantial milestones through shared documents such as Google Docs and will track scheduled tasks via activity log.  Furthermore, the team would focus on using scrum to complete significant deliverable portions of the system.

Sprints will have an added advantage to the team for keeping the project progress on schedule. The teaching staff has designated time for official mentoring weekly on Friday from 9:41 am to 10 am to review and plan the student marketplace (Agora) project together**.**

**Resource:**

The required resources in this project are, by definition, anything capable of developing the marketplace for students' as an online store. To begin with, human resources (team members, teaching staff,etc.).

Access to the university's learning facilities, course materials, and other related project's releases by the course coordinator will predominantly be the primary guide for building the system. Furthermore, the user stories would include just enough details to draw a sensible estimate of what requirements to construct in the project.  Also, features suggested by group members would be of high value to system implementation.

The university supplies the group with access to GitBucket and Taiga to manage and record any project changes as the team progresses in developing the system. Finally, teaching staff inclusion and mentoring would efficiently allow group members to achieve agility, allocate time, and organise roles.

All languages and frameworks we are using are open-source, so these are all free at our disposal.

We will also use Microsoft Visual Studio for our development environment as this is free and easy to use for full-stack projects.