BookBarter Proposal

Introduction:

This project will be a retail shop primarily for university students to sell and buy textbooks. It will operate as somewhat of an online classifieds space and community website. The website will allow users to post up adds for notes and textbooks in which they desire to sell using the platform in the hope of finding a recipient for their goods. The further addition of an online electronic distribution will also accompany this platform as the increase in demand, has seen a recent paradigm switch in the textbook industry.

Aims:

The purpose of this project is to create a simple application for students to buy and sell textbooks. Our aim is to create one central location that can be accessed by all students. We are trying to solve the simple issue of connecting people with unwanted textbooks with people who want them.

Background:

Currently, the buying and selling of student textbooks offers many different options that are spread out across the internet. Some of these are merely groups on facebook in which many people are not members, or they are closed groups to the public. Unless an individual has knowledge about these groups they are quite difficult to find. Other forums for selling textbooks can be found on conventional e-commerce classified sites such as gumtree, however sites like this offer a wide range of categories to choose from. This platform will be solely based on the niche of selling textbooks new or used to potential buyers. The main competition we found in this space is by a service knows as StudentVIP. StudentVIP offers a similar service in which students can connect to buy books between each other. Our service will differ as many users of this platform have to be based in their location in order to finalize the transaction. We will also differ as we will incorporate the ability to barter, bid (auction) and directly buy. Our platform we also plan to scale so that will encompass other retailers of textbooks to sell directly to students and for many publishers or authors to sell their textbooks via the platform, in both physical and electronic variants.

Expected outcomes:

For this project we expect to deliver a product that can be used by university students to buy and sell textbooks easily. We hope to accomplish this with a microservices based architecture so it can be easily deployed and scaled on the AWS platform. We plan to make the service easy to use in terms of navigation and its intuitive design. In terms of a minimum viable product we plan to offer a service which allows for the the sale between two parties via a checkout functionality, a login screen, and an inventory display of current stock of certain books (with the ability to sort).

Proposed methodology:

Our team will implement many industry standards used in today's workforce. These include components and methodologies such as Scrum and the Agile way of working. We will have various milestones throughout the semester with key targets and goals to reach by each interval. These will be paramount not only to assess our current standings but to validate the work which

has been commenced by each interval. This will allow us to make more accurate and informed decisions on what needs to be completed for future development. We will use tools such as git and github to upload work allowing us to merge work which we all undertake, whilst also having the fail safe of version control.

We will implement a solution to the problem discussed above through the combination of microservices, applications and ultimately a versatile stack in which we believe can help build this platform effectively whilst helping it scale as need be. These services will talk to a relational database (both mongoDB for aspects such as listings, and mySQL for vital data such as transactions and user accounts), communicate and relay as needed to other services via Message Queue and be publicly accessible via its rest API. The service will integrate frameworks such as the spring framework and Angular 2, while being hosted by Amazon Web Services (AWS).

The system above will produce many challenges our team will need to overcome especially in regards to security, openness, concurrency and QoS. We plan to develop this stack with these in mind, therefore trying to minimise problems in the future. Obviously testing will be a crucial component to the project, implementing aspects such as unit tests, end to end tests and containerization via docker.

Work plan:

Our group will consist of three members. Bradley Thurlow (44779496), James Ridley (44805632) and Bryce Altman (44914792). Our group will spread the work out evenly, instead of each member specialising in a core component of the architecture. This way we will all have the opportunity to learn each component of the system instead of just focusing on a specific area. We believe this methodology will be the most beneficial as our ability to diversify our skills and research in each component will increase. We also have concluded that it will improve our work ethic as a team, due to the fact that we will be building on each other's work. This will enable us all to have a deep understanding of the project from end to end, as we will need to comprehend what each member of the team is working on while we are moving forward with the project.

References:

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