

Rydr

Software Project Proposal

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Description of the Product

The product will be an android application that allows the user to see the nearby hiking and biking trails. The application will also, hopefully, incorporate a social networking aspect which will allow users to share experiences with each other, as well as leave notes about the trails. The app will also recommend trails for the user based on distance.

Need for the Product

The purpose of this project is to create a product that will enhance the experience of biking, hiking, running, or any physical activity through public trails. Our product will make navigating and accessing trails easier while providing the ability for users to share their experience through social media, collecting achievements that they can display for their friends, or by connecting with fellow trail runners and biking enthusiasts. Because of the intricate nature of trail roads as opposed to regular street roads, the current market of navigational applications are not capable of accurately tracking and representing these trails. Our application aims to remedy this by developing specifically for the outdoor audience in mind. By personally understanding and navigating public trails we will be able to create an application unlike anything in the marketplace before it.

This will also allow users, new to the outdoors, to have another way to get introduced to hiking. With its ease of use, it will be a gateway for new users. This will help grow and connect the community.

Potential Audience

We are targeting the outdoor audience who already have an interest in hiking and biking. While our main focus will be that audience, it's also important that we try to attract new users that have a growing interest in the outdoors and make it easy for them to use as well. To attract the general population, we will make sure to implement social media functionality and reiterate the ability to share their experiences with friends and family to continually grow the interest of our product to potential audiences. The integration of an achievement system will also foster a friendly competitive atmosphere that will keep users hooked on the application. In terms of demographic, the younger generation will be the main focus as they will be the main users of the app.

Discussion of Competing Products

As mentioned, our product will focus on the biking/walking trails which are smaller roads which current road map assistance applications still have trouble navigating through

100% mistake proof – especially when there are overlapping bridges or the streets are very close to each other and too narrow.

As with any social networking platform, there will be competition from the established platforms such as FaceBook, Twitter, etc. To deal with this, integration with these platforms may be more ideal, as it will also make it easier to bring in users. On the user end, it also provides them more connectivity with those platforms.

High-level Technical Design

Since majority of the team members are new to application development, we will use Android Studio as we are going through it over this course which will make it easier for the project completion. Within Android Studio, Java and XML are utilized. We will be building our product from the ground up and will do so with a user-friendly interface that would not be too complicated to understand by anyone. We will also utilize resources such as Google Maps and other possible open source libraries in our implementation.

Our implementation will not be limited to those that were mentioned on the previous paragraph. As we develop through our product, there is a chance that things will not work out for us or we might find something else that could help us make a better product.

As a standard, we will have frontend, backend and security divided among team members as their main roles but it would not be limited to those. Everyone will be working on documentation as well.

The application will have a few different tabs, with the default tab acting almost as a main page. Another tab will have show nearby trails. This will be connected to Google maps and highlight the trails. Clicking on these trails will lead to another tab which will almost serve as that particular trails main page, with user comments under it, or even news about its current status. Another main tab would be to just show a trail that may interest the user. The final tab will be a search tab.

Resource Requirements

Time and extra effort for team members are needed since we are building it from scratch. Assuming that no one has the expertise in using Android Studio per se, it will require effort in researching which ones would be the most optimal way to develop our application. Knowing that each team member has their own other projects and classes to attend to, synchronizing schedules (i.e. division of work and work dependencies) will be an obstacle.

Since current road map applications are still having trouble distinguishing the smaller roads, we might not be able to successfully implement what we want to accomplish. We might

need to really look into other software or libraries that we have no idea how to utilize to be able to accomplish what we want our product to be.

A safe rough estimate would be to expect the project to be operational within 200-250 man hours combined. To have it ready for release, maybe another 100 man hours spent on polish.

Potential Approaches

Divide the team into starting building the framework of our product and the research team to determine if what we want to achieve is even feasible in the given time frame of this course. After that, reevaluate our approach and see what we could do as an alternative product with the same concept in mind.

After creating the base framework of the project, each of the pages can be separated for individuals to work with. The problem with this however, is that the pages could feel disconnected because it will be a different person working on different parts of the application.

Another approach is to have different individuals work on the backend, the profile, the database, and the front end. This will allow each part to have continuity since each part will be worked on by the same individual.

Assessment of Risks

The risk of not being able to implement our product the way we want to would be really big and if it turns out that we are unable to, then we would have just wasted our time. There is also an inherent risk that we will hit the roadblocks that current navigational applications have also hit that have made them not able to accurately track trails. To reduce this risk, we need to do the above mentioned approach. Also, we should have a backup product plan.

Next Steps

Meet up and decide on the roles each team member wants to be in charge of as well as deciding on the overall flow of our application development. Begin to research additional software or libraries that can help us develop the mapping framework and provide cursory data that we can expand on in the development cycle. Be more proactive in communicating through slack - especially since everyone has their own schedules and not all team members are in attendance during meetings.