

Software Project Management - Lab 4

Daniel Silva - 100679066

Ibrahim Noor Mohammed - 100662343

Brett Hausdorf - 100653576

1. Talk about risks associated with certain activities, and the countermeasures you will take in order to mitigate that risk- that counter measure will be considered a task (for example, one risk at the end of the project is that the customer won't like it, so, one part of your counter measure would be to hold an open beta test for your software and collect feedback- those are considered tasks. Feel free to use this risk & countermeasure in your project). Mention at least 2 risks and their respective counter measures.

Our activity diagram covers multiple streams of work that need to be done in separate stages, concurrently and parallel. Based on the very nature of these tasks that need to be done, there will be certain risks that will present themselves. These risks will often need to be dealt with, creating its own task that is crucial for developers to plan around.

One of our main characteristics of jiroStream is that it follows a free to use system to reach as wide of a user base as possible. The market for free applications is huge, and jiroStream absolutely needs to be able to reach that market which contains the highest user base. This will be done by making the application free. This type of non-monetized purchase creates great risk however, causing almost no profit to be generated into the development team. The countermeasure for this risk is to enable different stages of advertisement integration. We can establish a team to handle advertisement integration with advertisements being initiated at startup, and after specific number of songs have been played on a certain profile. Additionally, we can create a monthly subscription for premium users and create a premium tier where there are no advertisements, but we collect revenue from them each month. This would also require specific features to be implemented specifically for premium users, and also there would need to be some communication and marketing of the application to other companies to be able to get advertisement sponsors.

Another big risk for our company is that there are multiple music streaming applications in the public market that create huge competition and risk when introducing a new music streaming service. There are multiple music streaming applications that are all fighting for the top spot in the market, however there are a lot of features/oversights that many big music streaming applications have not implemented. We can mitigate this risk by creating a user forum where users vote on most wanted features and fixes that the developers can work to reach each update. Each update can be monitored by the user feedback team and working to implement the users wants and needs. This is a major way to mitigate a lot of the risk in grabbing a user base. However, when it comes to a task such as this, there is no way to completely eliminate all risk. We could additionally minimize risk by adding features that other applications do not have, such as users being able to upload custom playlists that can be downloaded by any other user without having to wait for the platform to verify the copyrighted music. We can do this by creating a userspace where each user can upload whatever audio files they want to listen to and upload it under their channel name, similar to the rules of Youtube.

2. There are multiple activities that must be done for the development of jiroStream that must be done either concurrently, or in a parallel method. This will be achieved by splitting the team members into separate teams so that we are able to achieve the goals on time. This will be achieved by the creation of multiple teams, and each team will be collaborating with each other at some point during the project to ease development strain and be able to deliver the final product.

Media Team:

This team will consist of members with marketing experience and some software experience. This is very important because this team needs to be able to understand which licensing rights are most important and how to prioritize which licensing rights will be the ones that will be easily integrated into the system. The team will begin the project by focusing on acquiring media licensing rights. This is very important to the overall project because it is an essential need that the entire application requires. As more and more work is done to acquire the media licensing rights, some of the team will move over to help the development team collect content from the acquire media to the server database. This is a great task for the media team to help with because they have the experience of communicating and acquiring the rights from the companies and will be able to easily assist in placing them into the database. Real world database.

Software Development Team:

This team will consist of members with a high level of software and programming experience. The software development team is responsible for the major security of the system, as well as creating and running the algorithms for listening habits, preferred music, etc.. This team has a major role in making sure that the system cannot be breached and that the software is secure and stable; the software must also be efficient and optimized for good performance on both desktop and mobile devices. Therefore, the program will have to be lightweight on mobile, which means it is highly recommended that the software developers have background experience in mobile development.

Hardware/Physical Layer Development Team:

The hardware/physical layer development team will consist of members who are highly experienced with setting up physical servers (via Apache, Lambda architecture, etc). These servers will be databases that not only store the music, but also servers that store credentials, location, datamined information for algorithms that the software development team creates, and so forth. Therefore, we will have three main servers to set up:

- music database
- client database
- algorithm database

The music database will store the music and playlists that users have created. It will also be pushable by artists once they have been approved for uploading via licensing rights.

The client database will have sensitive information about our clients, and therefore it needs to have multiple access restrictions, be it encryption, intranet, etc.

The algorithm database will consist of the clients' preferred music, recommended playlists, and datamined information about the listening habits and advertising recommendations for users.

Test Team:

The test team will consist of 'white hat hackers' who are going to attempt to break the system in numerous methods, be it data theft, purchase evasion, piracy, decryption, and so forth. They will be responsible for testing the test cases that involve input/output of the software that the software development team has made. The test team is to report any bugs or unintended behaviour that occurs to the software development team leader in order to rectify the issue. Any security risks that come up will be addressed to the hardware and software development teams for addressing.

HR/Interview Team:

The HR/interview team will consist of senior developers that understand the development process which allows them to be able to make good decisions on whether or not these new hires will be able to make a contribution on this project and fulfill our needs. This team will start with conducting interviews and screening for new employees. This team will be built with some members of the hardware and software team who are working in both teams occasionally. After this first phase, this team will move into training and workforce readiness where these new recruits will work to incorporate themselves within all the departments. At this point, each team will split up into the respective teams to complete development.

The time range for the MPP file will be approximately 8 months, and has been OK-ed by the TA as this range is over the 3 month maximum.