**CS490 Team 5 - LotteryPool**

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**Product Backlog**

1. **Problem:**

The modern day method for managing lottery tickets has become quite outdated by limiting the consumers to track paper tickets. Many of these tickets are also only available if you can make it to a store or gas station. This limits the consumer pool and it puts an unnecessary risk on the consumer with the possibility of losing their tickets. We would eliminate the risk by bringing lottery sales through our application and help extend the market to joining consumers from around the nation. We want to expand the limits by giving options for player pools, private pools, and extend the options for all lottery fanatics.

1. **Background Information:**

While the lottery currently draws a big crowd, especially when the jackpot is huge, but it is not made accessible as readily as it could be. It has also become popular for people to try to up their odds of winning by joining a pool. Pooling lottery tickets has become a very popular method amongst friends and family, but we want to really give these pool-seekers a safe, reliable, and central location to invest in larger pools to really even their odds against the lottery.

We would begin by delivering options to partake in nationwide pools or private pools in which users will be able to invest freely. We will provide safety and reliability in our product by making it possible for users to monitor and track every aspect of the tickets and users in the pool. We would then like to extend this out to allowing personal ticket sales to take place via our application. This final bit would require some back checking to ensure that we are within legal bounds according to the way we link the exchange from vendor to consumer.

1. **Functional Requirements**

User Accounts

1. As a user, I would like to be able to create an account.
2. As a user, I would like to be able to store and view payment options.
3. As a user, I would like to be able to view my tickets.
4. As a user, I would like to be able to change edit my profile and details.
5. As a user, I would like to create lottery pools with friends.
6. As a user, I would like to view lottery pools with friends.
7. As a user, I would like to view other lottery pools with random groups of people.
8. As a user, I would like a friends list where I can add/view friends. (if time allows)
9. As a user, I would like to be able to delete my account.
10. As a user, I would like to agree to a “Terms of Agreement” page to ensure protection of player and self.
11. As a user I would like to have the option of accident-proof deletion of my account. e.g. Type “delete” before account is removed.

Pool Hosting

1. As a user, I would like a page dedicated to the pools I am in.
2. As a user, I would like to view individual pools and see the statistics and valuable information as it applies to each pool.
3. As a user, I would like to view open pools around the nation.
4. As a user, I would like to be able to join an open pool.
5. As a user, I would like to receive a refund if my pool does not reach capacity.
6. As a user, I would like to be able to have updating statistics as people are added to a pool.
7. As a user, I would like to be able to add users in my pool as friends.
8. As a user, I would like to be able to chat with users in a given pool. (if time allows)
9. As a user, I would like an easy payment method to and from the application that is safe and secure.
10. As a user, I would like to be able to store and receive money in custom intervals.

Ticket Purchasing

1. As a user, I would like to be able to customize the ticket that I am purchasing for personal use upon purchase.
2. As a user, I would like to be able to customize my allotted tickets for a lottery pool.
3. As a user, I want to view all my purchased tickets in one central location
4. .As a user, I would like to decide how many of tickets I purchased(if any) I want to be random.
5. **NonFunctional Requirements**

**Architecture**

The architecture will not be to in depth as our application will only use four or five main activities which will incorporate a total of 3 - 5 additional popup pages or portals depending on how we decide to handle the payment system. The ultimate goal for the UI side of the application is a clean application that is complete in its utility and usability.

This may require a bit more in terms of backend architecture because we will need a set time to manage the pools, a set method for automating the ticket purchases and updating the UI according to each ticket per lottery. We will need to determine a safe, reliable, and fast method for performing these actions.

Finally the architect will require a backend which will manage user accounts in a secure environment. This database will need to manage a balance for each user along with all active user pools.

**Performance**

There is a towering issue with performance given that we may need to handle hundreds of millions of ticket transfers in a very short period of time. In order to ensure that these transfers take place and are safe for each user, we will need to design a complete and secure algorithm to accommodate for this incident of ticket transfer overhead. However this will continue to improve, so we will focus on designing a system to transfer the tickets to the active pool or personal accounts, while aiming at better system performance.

**Security**

Security is a very important issue for this application. We will be managing sensitive information and valuables for each active user. To ensure this is being managed correctly we will need to perform excessive research to ensure that all precautions are accounted for when we launch.

**Hosting and Development**

We will host the Android application using Android Emulators included in our development environment. We will develop the front-end of the application using Android studio to write Android and Java code. We will seek a framework to begin with so that this may be ported to new devices in the future. The development will consist of backend design and a complete UI to present upon launch.

Our team will decide upon hosting according to what is required to ensure ticket purchasing is a smooth transition. We will most likely use private vendors for server hosting, on which we will load the database of the application.

**Appearance**

We want the application to be fun and entertaining for the user. The UI of our application will be pleasing and appealing to the target demographic of youth and also adults. We want to give the application an enjoyable user experience while maintaining the application’s high usability.