Syp-Projekt

PROJECT PROPOSAL

REISCHL, MANYA, DILJKAN

Introduction

The reason why we want to make this project is because we think, that everyone could have a good use for it. Every instructor or teacher could use it to make a short learning quiz for students. The users can also just have fun playing their most favorite quizzes and beat their friends on the current most popular topics. The project will also bring some interesting informations to the users and improves the user's general knowledge. Additionally everyone can share their ideas and quiz questions to all the people using the app around the world.

Initial Situation

The very basic idea is the development of an app where it's possible to answer question. This idea got expanded to estimation/guessing questions like "How many people had at least three mobile phones in their life time?" or "What percentage of people uses public transport to get to work or school?" The user will be able to give his answer and tries to get as close as possible to the correct answer. But that's not what we've stuck on. So we decided that this must be multiplayer capable. Competing and beating others in multiplayer duels makes just more fun, than just guessing an answer and see if it's correct or not. At this juncture we thought that a score system would be great, which means that how faster you give the answer and how closer you get the more score-points you earn for answering the question. Fortunately the "loser" of the round has not completely lost the duel, because there several rounds where the players can gain some score-points. The more points in the end of the round the player has the higher is his rank on the duel-leaderboard. But the one who scores a lot of points might come to a question where he is far away from the correct answer and scores hardly any score points.

Every user should be able to add his own questions to the community. By the community we mean the network of the people using the app. This question can also be voted. If a user thinks that the question he just read is great he can up-vote it or just down-vote. In order to avoid inappropriate question there's a report button planned to report questions as spam or harming. All the questions are shown and ordered by the votes. Questions with too many down-votes and hardly any up-votes might be removed or just not shown, because they are not very popular and disliked.

This brings us to the next feature: Categories! The community question will be a category for instance. When the user wants to start the game he can select question pools. Our categories feature will be the question pools. That means that the player will be able to only get question of the Category Community questions or he decides to choose a category Youtube questions or Google search results or Cars or even famous people or just something the users like. It might be even possible to create your own category and invite friends to play with you.

Our team has already moderate android development experience and a well java know-how. Also the app design and user interface experience is present and quiet good. All the

technologies we will use during the development are not too complex and we are going to make a lot of implementations ourselves.Some deficits are, that we didn't learn a lot of server technologies and online databases so far, but this will be resolved in the present school year.

General Conditions and Constraints

The game must have a live and real-time concept, which means that there's a matchmaking queue where people are searched and when found the session starts or you invite friends (from Facebook or Google account) and have your private session. When the session starts and everyone is ready a question shows up and all players can answer it in real-time. Then the score points will be given to the players and the next round starts. In addition there's also a timer for every question/round.

Also a profile can be created where there are achievements to reach a profile picture and some public information.

A leaderboard and statistics should be at the end of every game session you played and a global leaderboard + global statistics.

To have some additional social content we thought about emojies you can send while the next round during a game session is loaded or when you finished guessing and the others didn't finish yet.

As login-service we want to use either facebook or google if the user doesn't want to use one of the both he can also create an account in the app and play. So Facebook and Google services are just optional. We have to make a database and a server to save and load the statistics and player information. Also the questions and maybe categories that can be added must be saved on the server.

After long discussions, a lot of tutorials and tutorial videos we decided to use Xamarin to develop a cross platform app, which works on Android, Iphone and in addition a website for PC users. Our hardest decision was to choose between a cross platform app and a hybrid app. As already mentioned we chose the cross platform app. This is because we wanted to specify the look on the mobile platforms and have an awesome website specified for computer browsers. Our negative thoughts about the hybrid app were, that one app/website for the mobile platforms and the computer browser would probably look awesome on the pc browser, but awful on the mobile phones or inversed. We want to make something looking special and being extremely user-friendly on the mobile platforms with the feature that the user can use the whole app using the computer's web browser having a browser optimized version, which provides the opportunity that the user can easily add for instance a lot of questions to a certain category and create his own question pools, which would be very uncomfortable on the mobile phone. Of course, there will the the possibility to write questions and create categories and question pools, but everyone, who own a

computer will prefer using the computer for writing the question and pools of question for sure.

Due to the fact that Microsoft bought Xamarin, Windows users can now develop applications using Visual Studio with the Xamarin features. This means that project members using OSX will use Xamarin Studio and the Windows users will use Visual Studio with Xamarin features to develop our app.

Additionally, some IDE's are required for the server things. A still under discussion topic, which is not yet decided is on which technology our server will be based on and if we are going to use C# or Java for the server. For some smaller things, which maybe don't even have to be compiled (scripts) we are using notepad++. Also php might be used. In case we are using C# we definitely use Visual Studio and when using Java, Eclipse will be used.

For some designs and images we are going to use GIMP or Photoshop.

To simplify the development of the app we decided to use some 3rd party technologies, which can save a lot of time, energy and work for us.

A very useful Interface is the Real-time multiplayer API provided by Google Services. It helps us settings up multiplayer session in real-time with any player from anywhere in the world. Therefore we need the google play console, but for the registration we need to pay 25$.

Project Objectives and System Concepts

As "not sure if we really do this" feature we thought about a daily question on the dashboard. The user can pick a short answer and the next day there is the next question and the community result of yesterday's question. That makes it possible to see how many percent of the community would pick a specific answer. For instance: "Are you using public transports?" Then everyone can pick his answer and the next day the result can be showed.

We also want to create our own technology. As there are also text inputs in our guess game it's needed to evaluate the string of the user input. It should be possible for the players to give an answer, which must not be 100% correct in kinds of grammar of spelling. Additionally, it should be possible for the user to give answer in which correct answer is contained. For instance: Question is "What's the name of the United States president?". The answer we are looking for is "Obama", but if user writes "Barack Obama" it should be correct too. But the restriction of a correct answer is that player input must be contain the whole corrected answer. For instance: If the Question was "What's the name of the United States president?" again. And the correct answer would be "Barack Obama" and the user gives as answer "Barack" or "Obama" it would be wrong, because the user's answer must contain the full correct answer. Certainly like already mentioned misspelled answer will be, to a certain degree, accepted as correct. We are not completely sure at present how high this certain degree of tolerating misspelled words will be.

If someone in the session gets disconnected, we are currently not sure how to handle it. One way would be to throw this player completely out of the session or to let the other players

decide, if they want to wait for this players or if the player should be thrown out of this session.

Our total objective is to make a great app running on Android as like as on IOS and in addition a website which handles all the things that are hard or uncomfortable to be used on the mobile phone as good as possible. All long “texts” and questions and categories must be easy to be handled for the user on the computer using our website for the app. They should focus playing the game on the phone while all the administrative things can be done on the website with the best result. But you can use every feature on every platform, but each platform specifies on certain features.

Opportunities and Risks

The project has the following Opportunities:

- Making a new great teaching method where the students can learn by playing
- A great real-time multiplayer quiz game with more than just 2 players
- Cross platform capable
- Getting into the newest topics of the community and challenge yourself and other players in the most favorite topics
- The player can play against his friends

The following Risks have to be taking into account:

- Our app heavily dependents on the internet connection of the user
- Our app also dependents on the Google Play Services
- If there are not enough people online, the multiplayer won’t work
- The cross platform version of our app using Xamarin might bring worse performance or some technical issues
- The web app made by Xamarin might not meet our visions

Planning

The project will start on the 4th of October, 2016 and will and it will end in half and a year. We estimate that the first prototype will be available on November of 2017. As we also have to write the system specifications, so we aren’t able to start the implementation early then January. Our big blocks of work are going to be:

- Finishing the project proposal
- Write the system specification
- Implement the Login and Register with the social networks (Facebook, Google+,....)
- Create the user interface
- Implement the game play
- Make the design

- Creating the web app
- Testing

To use the servers of google, we need the Google play Service and to use the service, we need the google play console. For the registration on the google play console we have to pay 25$. We really believe that the project is doable in the giving time period.