"Go Geo"
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Summary

"Go Geo" is a location based game where the actor travels to various places in the world and accomplishes certain targets. This game is especially designed to educate the people of the climate changes and its impacts. It also tries to empower the users on how to overcome these challenges along with fun and excitement. In this document, we are providing both functional and non-functional requirements along with the test plan summary of the game as below.

Some of the **functional** and **non-functional** requirements are

- The application should provide a unique id to the new user who signs up for the game and should retrieve the information of status of the game based on the unique id for the existing users.
- The application should provide a demo training for the new users to understand the game before jumping to the actual game. The application should have a help option for the player to reach out for assistance whenever required.
- The application should have various locations in the different countries as the levels of the game. The worst hit locations due to climate changes should be selected as the levels of the game.
- The application should display the default location for the new user to play the game and rest of the levels should be locked. For the existing users, the system should also display the unlocked levels.
- The application should unlock next level only upon completion of the current level.
- The application should allow the user to team up with other active player and play as multiplayer game.
- The application should provide information of the location before the start of the gameplay of every level.
- The application should display the tasks to be accomplished to complete the level and move on to the next level.

Non-functional Requirements

Usability: The game 'Go Geo' is for all age groups but is specifically targeted to the school students. So, the game should be very user friendly and should be easily understood and played by even novice user. The help option should aid the user whenever needed.

Reliability: The database server that connects the game to the various device should be up 99% of the time and any maintenance should be done without the affecting the original game. The user must not be lost in case of any server crash.

Performance: The application should take maximum of 20 secs to load any new level or move to any menu and shouldn't produce any lag or jitter or other defects.
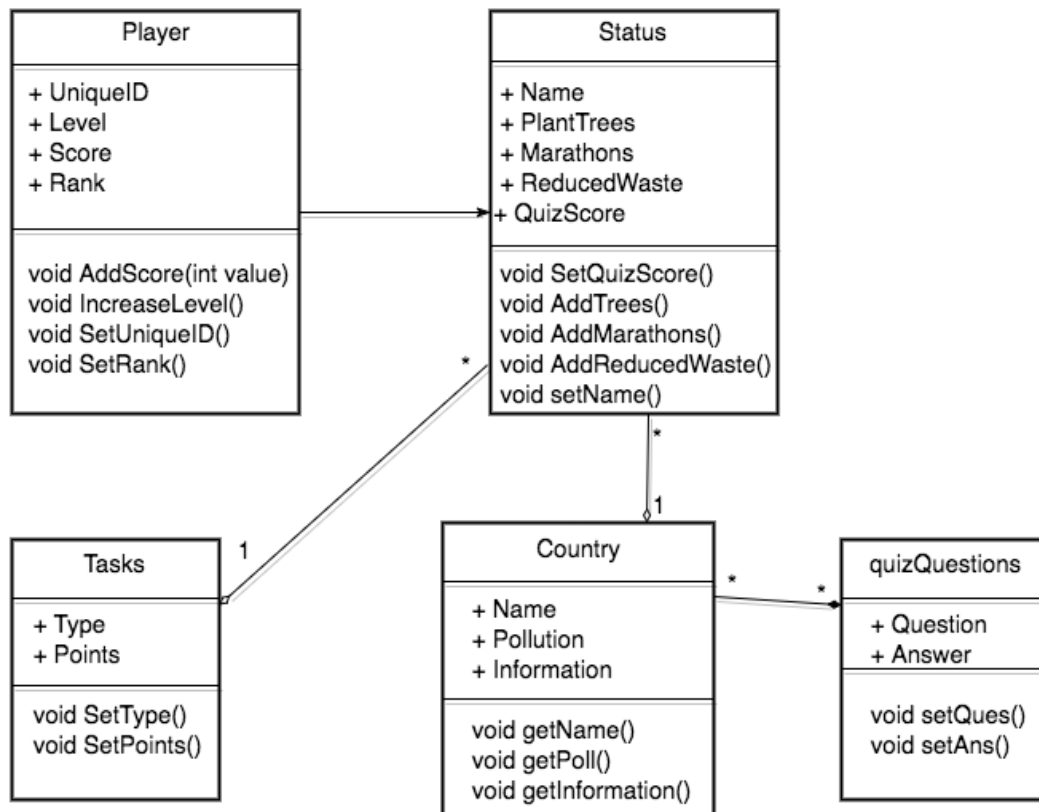
Security and Supportability: Only developers must provide updates to the game. The game must support the earlier versions in all devices without any errors. The user should try to update the game before the previous version becomes obsolete.

Test Plan

The testing for the **Go Geo** game will consist of unit, system/integration and acceptance level tests. The unit testing will be done by the development team as well as the dedicated test team of the application. The system and integration tests are done together and are done by the test team. The acceptance test will be done by the end users under the supervision of both the development and test teams.

Class Diagram:

The entire game can be summarized using the class diagram as below. All the classes and corresponding methods were included in the diagram.

Player

+ UniqueID
+ Level
+ Score
+ Rank

void AddScore(int value)
void IncreaseLevel()
void SetUniqueID()
void SetRank()

Status

+ Name
+ PlantTrees
+ Marathons
+ ReducedWaste
+ QuizScore

void SetQuizScore()
void AddTrees()
void AddMarathons()
void AddReducedWaste()
void setName()

Tasks

+ Type
+ Points

void SetType()
void SetPoints()

Country

+ Name
+ Pollution
+ Information

void getName()
void getPoll()
void getInformation()

quizQuestions

+ Question
+ Answer

void setQues()
void setAns()

Finally, Go Geo is a mobile application game that can be downloaded from the istore or the play store as well as play on the desktop using google maps. We could derive the idea from the game and make it played on consoles like play station and make it more enthralling. Multiple versions of the game can be released, each for its own type of engine.