Software Engineering Project

Alec Burmania

1/26/2016



Purpose

According to the National Math and Science Initiative, Students who progress through at least Algebra II in high school are twice as likely as those who do not to complete a four-year degree. 26 nations worldwide score better than the United States in math. Science, Technology, Engineering and Math careers are growing twice as fast as other disciplines. These statistics indicate a reason to encourage kids to be more proactive about learning math. We, a group of students from the University of Texas at Dallas propose (ENTER NAME HERE), an android app that will teach students simple mental math abilities that will enable them to solve problems. The app will measure the student’s ability to apply these abilities through games. Students will be able to track their progress through these games and receive feedback on how they can improve. Our goal is to release this game to the general public to allow those who want to learn to have the ability to begin.

Project Highlights

* Help students or others of the general public learn mathematics
* Create math tutorials for users that are easy to understand build upon each other
* Create games that test the abilities that are taught in the tutorials
* Present dynamic feedback to users which help them improve
* Allow users to track their progress
* Design and implement in an easy to use android app

Implementation

This project will be implemented using a three-phase approach as summarized below:

Project Milestones

|  |  |  |
| --- | --- | --- |
| Milestone | Completion Date | Team Member |
| Finalize requirements |  |  |
| Design wireframes for tutorials and games |  |  |
| Create math tutorials |  |  |
| Construct game #1 |  |  |
| Construct game #2 |  |  |
| End phase 1 |  |  |
| Design user profile wireframes |  |  |
| Implement user profile UI |  |  |
| Implement user score tracking |  |  |
| Regression test |  |  |
| End phase 2 |  |  |
| Design user development wireframes |  |  |
| Implement user metric UI |  |  |
| Integrate user feedback into existing profile UI |  |  |
| End Phase 3 and development |  |  |

Why Android?

Android is a wise choice for app development as development and distribution to the Google play store is completely free. In the US, android holds a market share of approximately 51 percent, making it the largest by a small margin. Worldwide, Android holds roughly 95 percent of smartphone operating system market share. It is reasonable to predict (and expected) that Android’s market share will continue to rise in the US, making Android a better choice for longevity.

Development and Change Management

The team will use Android Studio for development. The version of the development platform will be constant for all developers. As such, the app will be written in Java. Testing for target will be done through the included emulator, though final implementation will be done from a physical Android device. Source for the application will be maintained in GitHub. At the end of each iteration the code will be branched for tracking purposes. Developers will leave meaningful comments in their code and will add meaningful dialog for commits to the repository. Communication is critical, and as such the team will hold weekly meetings to synchronize. All other communication will be done through email.

Team Members