

## **Final Project Proposal**

### **Background**

This objective of this project is to teach English to children in developing countries, through the use of games on mobile devices. There is currently a deployment in India, in which children played the ESL games and were tested on their ESL knowledge before and after. The games that are currently being used are all single-player games, meaning that the game played on each phone is independent of all the other games (ie. there is no networking between the games on different phones). During this study, we noticed that many children would try to crowd around one phone and give their input on what should be done. However, ultimately, only 1 child had control over the phone. This would mean that many of the children would soon lose interest. So, we wanted to find a way to integrate the collaborative nature into the games without letting any of the children lose interest, which essentially would motivate more children to play these ESL games.

### **Approach**

In order to create a collaborative environment, we are going to create multiplayer games on the phones, which will interact with each other over Bluetooth. This would allow each student to have his or her own device to give input but can also give the students a chance to collaborate on the game. The students would collaborate about what to do for the game and then execute the strategy on their own cell phone. The plan is to design the first version of a simple multiplayer game and deploy it to children in India. We will use this simple game to get an idea of the students' reactions to the game, and to see if it's a viable solution.

### **Themes from the Course**

This project draws upon many themes from the course. First, it draws heavily on designing for unschooled users. Although our users will not be unschooled, they will be semi-literate, so many of the concepts for unschooled users would apply here.

Since this project's objective is to teach English to children, theories on human learning would also be applicable. Although we will not be focusing heavily on the learning aspect for the first iteration of the game, it is still something to be taken into consideration.

Finally, the theories from the Psychology of Persuasion are also relevant. One of the major objectives of using multiplayer games is to motivate the children to play these ESL games for longer. Therefore, ideas about persuasion could be useful to create a game that children are motivated to play often and for long periods of time. In addition, the knowledge we gain about motivating children to play learning games could potentially be useful to designing similar games for schooled children.

### **Learning Expectations**

For the first iteration of this project, we expect to learn some basic information that can help us to refine the game further. We want to get a better idea of how comfortable children are with the idea of multiplayer games. Most of our users will never have played multiplayer games before, so it might take them some time to get used to it. We also want to find out if they continue to be collaborative about the game even when they all get their own devices.

We plan to use some very simple design patterns for the initial game that we deploy. We want to get an idea of which design patterns are the most effective and why. We also want to be able to test if children are more motivated by playing multiplayer games over single player games. Finally, although the learning aspect is not a priority at this stage in the project, we might still want to do some brief assessment of how well the children learn through collaborative games.

### **Assessment of Success**

This project will be considered successful if we are able to get an initial prototype deployed to children in India. This project will be successful if we are able to get a good idea of what the children think about the multiplayer game and what aspects of the game they liked or didn't like. We would also like to qualitatively determine their interactions

with the multiplayer games. We would also like to quantitatively determine if the children are more motivated to play multiplayer games over the single player games. This project will be deemed successful if we are able to get a definite answer on whether or not multiplayer games will be useful and if we should continue developing this project in this way or if we should consider a different approach.

### **Application and Usage Scenarios**

The game that we want to use for this project is one that requires the students to collaborate in the physical world before they use their devices to execute the task in the game world. All the users will have identical screens on their cell phones, but will each control a different sprite on the screen. On the screen will be tokens, placed in a random order, and the shared objective of the users is to move these tokens into a specific configuration on the screen as fast as possible. Since there will be multiple tokens, the best strategy is to have each player move a different token. Deciding that strategy is where the collaboration will come in. Ideally, the users will discuss their strategy in the physical world and then execute that strategy in the game world.