**Background**

Electricity consumption is one of the most common problems worldwide, many articles and blogs mention that energy consumption is always rising and which could also lead to an even bigger issue such as pollution, resource wastage like coals and natural gas which if we use would mean it will be gone forever once used. Countries who rely on coal and natural gas would be more at risk when it comes down to pollution in the environment. Energy consumption could also lead to higher demand which would mean that the cost of electricity bills would be even more expensive. The energy consumption can be reduced significantly if people learn not to waste electricity unnecessarily, nowadays children, teenagers, and even adults do not use electricity wisely, while adults may not waste as much as childrens and teenagers when compared, they are still part of a problem.

**Current situation:**

While children may not be the only causes of energy consumption, we think that they are the most critical because teenagers and adults have the ability to understand and be aware of how wasting electricity unnecessarily can lead to some consequences whereas children would not even realize the outcome of it. In today’s society many children take electricity for granted, parents have to continusly tell their children to turn off devices or any other electronics in the household and the message does not reach the children or is not as effective as it could be. The opportunity arises to help children understand the concept of saving electricity in forms of entertainment. Entertainment methods can be more effective and attractive for the children if we want them to learn valuable lesson/concept. This brings us to our proposal which is developing a mobile application game for children.

Our proposal & purpose

Since entertainment is a great source of learning, we decided to come up with an idea to develop an android game to teach kids the concept of saving electricity. The game would need to be interactive and educational for children. The game will have many levels with different scenarios that challenge children while also reflecting the real life situation.

Scope:

Measurable organisational Value:

Our project will impact on mainly two areas:

1. Social
2. Financial

Social:

The game will bring awareness to children about electricity consumption. This means that we will have encouraged and influenced children to be wiser when using electronics. This could also mean that children could not only be wise but also remind their parents about electricity and also help spread awareness to others.

Financial:

Financial impact such as electricity bill will be cheaper for parents to pay for and electricity organisations/providers will have to spend less money on expanding their business, because if we consume too much electricity not only the price of the electrivity bill will be higher, the electricity providers will also have to spend more money to expand and build more facilities for everyone.

Aim/Objectives

Our aim is to design and develop an educational android game that teaches children between 4-6 years old the concept of saving electricity.

1. Easy navigation: The children should be able to navigate easily. This means game menus and in-game interfaces should be simple to understand. Our game menu will have at most 2 buttons that the children can press. One to start the game and other to select level.
2. Conduct research on similar games: this will help us in identifying the factors that will be needed to create an educational game and also identifying where we could make improvements.
3. Audio & Visual implementations: The game will rely heavily on visuals and audio. We will need to make sure that we create scenarios with attractive visuals for children and also audio to help communicate with the children which is more effective than texts.
4. Implement Simple Interface: Our game should not have too many interfaces as it will complicate things for children. We will only implement a progression bar which determines how close you are to completing a level and the other would be a fail attempt interface such as 3 strikes and you are out and would have to restart the level.
5. Different levels: Different levels will be used to create different scenarios and challenges for children to overcome. The levels should somewhat reflect real life situations but in a form of a game.
6. Interact able objects – The children will have the ability to interact with objects during the level. This will be needed because since our game will be more like a quiz game, it will require children to choose objects which will determine whether its correct or incorrect.

Stakeholders – who will it, impact?

Our game will have an impact on 5 main stake holders, they are:

Children: children will be influenced by the game and will be aware of the electricity consumption and how to use it wisely.

Parents: Parents will benefit from this game, which means they won’t have to keep telling their children to turn off an electronic/device. This will also benefit the parents when it comes to electricity bills if their children are influenced by our game.

Electricity organisations: For electricity organisations it means they will have to spend less on operational costs but it also means they will make less money from families with wiser children.

Schools:

Government:

Research Question:

Can our educational game influence/teach children the concept of saving electricity?

This means will our game have an impact on the children? Will it impact electricity bills for parents? And will it help children making decisions when it comes to electricity consumption such as knowing when to turn off the lights etc.

Methodology:

We will be using Software development life cycle, with the spiral model when developing our game.

Why Spiral model?

Spiral model is very flexible especially when it comes to game development. We will need to implement many functionality into our game and playtesting will be a big factor and that is why we think spiral model is the best. Spiral model is also known to be commonly used in game development.

Literature Review: