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ENGINEERNG FACULTY

COMPUTER ENGINEERING

Toddler Teacher

Requirements Analysis Document (RAD)

COME 491 GRADUATION PROJECT

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1. Introduction

1.1 Purpose of the system

The generation alpha meet the technology the day they were born. So it is crutial to provide them good sources to widen up their minds. And that starts from very early stage, even before preschool period.

1.2 Scope of the system

In Toddler Teacher the main goal is to teach kids their first words. So that when a kid open the app, audio visual aids will be served to make learning process effective.

The game mainly will start with a home page that will show the icons of categories and the badge to the user(kid); in each category, there will be levels of the game. Each level will start with learning objectives for example; the first level of fruits& vegetables category will be introducing kids most known fruits and vegetables (apple, banana, carrot, cucumber etc.) with pictures of them and when the user touch the object it's name will be played. Then the game part will open. In the game part, the user will try to find the correct object that fits the gap shaped with that obejct and the matching game will be done with drag and drop. In the match game, audio will help the kid to find the right answer. When a level is succeed, the user will earn a badge.

1.3 Objectives and success criteria of the Project

The success of the application depends upon meeting the following core set of objectives:

-The design of a easily understandable GUI for kids to use well.

-The design of colorfull home page to get the kids attention.

-The success of audiovisial aids.

1.4 Definitions, acronyms, and abbreviations

Important terms and concepts are listed here.

Game: A game is an instance of Toddler Teacher.

Category: a class or division of people or things regarded as having particular shared characteristics.

(In this game, categories are: Fruits&Vegetables, Numbers, Alphabet, Colors&Shapes, Our Body, Animals, Daily Objects, Stories, Badge.)

Level: The degree of a user regarding of the success.

User: Any person who interact with the system. (In this game the user is any child aged between 2 to 5 years old.)

Badge: The prize that earned by finishing a level with success.

Drag and Drop: A method of moving icons or images from one place to another by clicking on them with the mouse and moving them across the screen.

GUI: Graphical User Interface

1.5 References

https://mccrindle.com.au/insights/blog/gen-alpha-defined/

https://www.nwea.org/blog/2017/meet-generation-alpha-3-things-educators-know/#:~:text=Generation%20Alpha%20is%20part%20of,natural%20to%20them%20than%20paper.

1.6 Overview

2. Current system

No system is in place.

3. Proposed system

3.1 Overview

This section provides a functional overview of the system. This will again be properly be divided into two parts

3.2 Functional requirements

-All categories must be accessible in the main page by the user.

-First level of each category must be accessible at the beginning.

-User must be able to turn back the main page with a button from any page.

-User must be able to unlock the next level of each category when they succeeded the previous one.

-User must be able to move forward to the next levels that they already unlocked.

- User must be able to move backwards to the pervious levels.

- User must be able to see their badges in the Badge category.

- User must be able to perform drag and drop method to play the game.

- User must be able to listen every sound that is related to any object by simply touching.

- User must be able to choose any story in the Story category.

- User must be able to switch through the pages of the stories.

- User must be able to listen every sound that is related to any object in the stories by simply touching.

3.3 Nonfunctional requirements

3.3.1 Usability

-Game must be pleyable with touch screen.

-Main page must be able to accessible at any point during the game or the run of application.

-System must play the sounds when user touch any icon that contains a sound.

-System must inform the user during the game when a level is succeded.

-System must inform the user with a moving icon when the user win a badge.

-System must provide the user to go back and forward of level of games or pages of the stories by arrows.

-System must provide the user unlock the next level with tounching a lock icon when the user succeeded the previous level.

3.3.2 Reliability

-Components of the project code will be tested alongside the implementation phase to ensure that they are functional.

3.3.3 Performance

- Drag and drop of the icons and the pictures must be smooth without graphical lagging.

3.3.4 Supportability

The application will be run on any android smart phone.

3.3.5 Implementation

The application will be implemented on Android Studio.

3.3.6 Interface

3.3.7 Packaging

3.3.8 Legal

3.4 System models

3.4.1 Scenarios

3.4.2 Use case model

3.4.3 Object model

3.4.4 Dynamic model

3.4.5 User interface—navigational paths and screen mock-ups

4. Glossary