SOFTWARE REQUIREMENTS SPECIFICATION
FOR
LET THE GAMES BEGIN

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25th September,2015

1. Introduction

This document is a Software Requirement Specification (SRS) for the LET THE GAMES BEGIN Mobile Application based project. This document is prepared by following IEEE conventions for software requirement specification.

The main purpose of the project is to provide a gaming platform where children can start loving math and alphabets.

1.1.Purpose

The aim of this document is to specify complete description of the Platform to be developed. It is basis for agreement between suppliers and customers about the product to be developed. The document will describe all the functional and non-functional requirements, functionalities, external interfaces and all those features that will be facilitated in the end product.

The Intended Audience for the document are all those worried but busy parents with children of age groups between 2 and 9. Also, for all those children who easily adapt to devices. Reports say that their numbers are growing very extensively over the years.

1.2.Scope of the Project

This Project is intended to make the boring and unavoidable task of learning alphabets, numbers, rhymes, basic operations on numbers and learning words much easier and interesting by using a gaming interface. Reports show that almost 60% of children today are comfortable with devices. So, there might be a good number of customers in 1-2 years.

1.3.Overview

The main focus of this document, is to describe the system from the user's perspective. In the following section, the product's perspective is taken to indicate the user characteristics, product functions, assumptions, etc.. The next section deals with specific system requirements, external interface requirements, performance requirements, data storage requirements etc..

2.Overall Description

This section gives detailed information about the requirements from the Product's Perspective, User's Perspective and the whole functionalities of the service in brief. This section will describe all those features which will affect the final product.

2.1.Product Perspective

This Product comes under the vast field of gamification in education, Dragon Box is one such tool where the users learn algebra and maths through games.
This product is eventually developed for those people who cannot spend time with their children and for those children who like playing with tablets and mobile phones. Product will be lauched for android users in the first place.

2.2.Product Functions

1. The Application deals with learning numbers, alphabets, words and certain basic operations on numbers.
2. The user completes learning each letter by letter and number by number.
3. The Application stores this data and a day revision is done in the form of a song/activity.
4. The user learns alphabets and words by visualising them.
5. The Application teaches alphabets, numbers and words by visualising them as images and by giving the pronounciation for each unit.
6. The Application tends to teach the user to help his friends, take care of his friends and learn sharing.

3.Specific Requirements

This Section deals with all the software requirements – both fuctional and non-functional which will be delivered to the user as an end product. All the Requirements are categorized into 3 – external interface requirements, functional requirements and non-functional requirements.

3.1.External Interface Requirements

In this sub-section, External Interface Requirements can be divided into

1. Parent Login Interface
2. Learning Interface
3. Practice Interface
4. Choose animal friends and learn together

3.1.1. Parent Login Interface

Name : Parent Login Interface
Purpose: To provide the child with flexibility by saving all the progress at particular instances on a remote cloud server, so that he can continue from his last unit of learning.
Source of Input: Once the user registers, he gets to access this page.
Validity: Until the remote cloud server is working

Units of Measure: Usability, Attractive and must update data by itself.
Softwares needed: Javascript, xml, ajax

3.1.2. Learning Interface

Name: Learning Interface
Purpose: The child learns the skills through this interface.
Source of Input: Once the child selects the learn option, this interface is called.
Units of Measure: Usability, Ease, Attractivity, Visual Learnings through images
Softwares needed: Jquery, xml, javascript

3.1.3. Practice Interface

Name: Practice Interface
Purpose: To revise and practise the concepts learnt, by solving certain types of interesting problems.
Validity: Once he exits the practice interface, he can start another learning session.
Units of Measure: Reporting Progress in real time, suggesting hints for errors in real-time, Ease of Use

3.1.4.Choose Animal friends and learn together

Name: Choose your friend for the class
Purpose: To add social value to the product , and for the children to learn sharing and caring.
Source of Input: The child can choose what pet he wants and food also alters based on the pet chosen.
Units of Measure: Ease, good animations

4. Specific Requirements:

4.1.User Management

The Product will be launched as a android application and can be accessed in android phones. The user has to fill the signup form in order to register for the service. His email will be verified and he can therefore have a unique account based on the email id. He can also signup through his Gmail / Facebook accounts. This process can be done by the parents.

Once registered, the user can login to his account and all his progress thereafter is saved in a cloud server. If the login information does not match with the stored values, an error dialog is shown and redirected to the login page.

4.1.1 Register

Primary Actor: User
Overview: The User Registers into the system.
Main Flow:

1. The user sees examples on the application of different games.
2. If the user wants to learn a skill, then he clicks on the “Learn a Skill” button when he gets redirected to a login/signup page
3. If not registered, he is asked to signup or login with facebook or gmail.
4. If he chooses to signup, he fills the signup form and enters a valid email address.
5. An email verification link is sent to his gmail inbox which on clicked confirms his validity.
6. Once registered, he can login into the system with that username and password.

Alternate Flow:

3. If registered already, he can login directly to the system with his username and password.
4. If he chooses to signin using gmail or facebook, he is redirected to a page requesting access to profile information, on accepting he can login to the system.

4.1.2 Login

Primary Actor: User
Overview: The user logs into the system and all his progress is stored
Main Flow:

1. The user logs into the system with the username and password.
2. He gets to choose the type of game he wants his children to play and learn from.
3. He starts learning the skill.
4. When he logs out, all of his progress is stored in his profile and he can retrieve that from the account whenever he wants.

REQ1: The System shall provide a User interface to see examples of games.

REQ2: The System shall provide a registration page.

REQ3: The System shall send a verification link to the user's email for validation.

REQ4: The System shall store the user's details in a database and show them in the user's profile page.

REQ5: The System shall support learning in own time and thus saves their progress.

REQ6: The System shall also provide a login option through facebook or gmail.

4.2.Learning the Skills

There are different learning modules for each age group.

Age group: 2-5 yrs
Major Skills: Cognitive development, Learning Alphabets and Numbers, Social Interaction (working near people)
Training Methods: Through visuals, rhymes and audios, By personalizing themes (solving real-time problems for friends instead of solving them as math questions)

Age group: 5-9 yrs
Major Skills: Cognitive Development, Decision Making, Social Ineraction (working with people)
Training Methods: Through real-time queries, Through deeper understanding of the concepts (Top -Down Approach)

REQ7: The System shall provide an interface which can embed visuals, audios and animations.
REQ8: The System shall provide a set of animal animated pets to select from and work with.

4.3.Practicing the Skills

Age Group: 2-5 yrs
Practise Methods: The Skills can be practised through interactive Rhymes and canvas sketches.

Age Group: 5-9 yrs
Practise Methods: The Skills can be practised through real-time problems, can increase creativity by dressing up the pets and by querying them in a bottom-up fashion.

REQ9: The System shall provide a canvas with animations moving along a path of the character.
REQ10: The System shall provide an interactive interface for revising the concepts learnt till then
REQ11: The System shall provide a database to store the progress of the user.

5.Non-Functional Requirements

5.1.Performance Requirements

1. The Application can be extended for iphone, windows and blackberry users.
2. The Application uses AJAX to retreive data from xml file so that they get updated automatically.

3. The Application must be able to store cookies to remember the user's login details or to prevent restarting the server if it crashes.

5.2.Security Requirements

1. The user's details are encrypted and stored to prevent any hacking attacks.