# Software Requirements Specification

# for

# Learning through interactive visualization

Version 1.0.1

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Table of Contents

Table of Contents [ii](#__RefHeading___Toc441230970)

1. Introduction [1](#__RefHeading___Toc441230972)

1.1 Purpose [1](#__RefHeading___Toc441230973)

1.2 Document Conventions [1](#__RefHeading___Toc441230974)

1.3 Intended Audience and Reading Suggestions [1](#__RefHeading___Toc441230975)

1.4 Product Scope [1](#__RefHeading___Toc441230976)

1.5 References [1](#__RefHeading___Toc441230977)

2. Overall Description [1](#__RefHeading___Toc441230978)

2.1 Product Perspective [1](#__RefHeading___Toc441230979)

2.2 Product Functions [1](#__RefHeading___Toc441230980)

2.3 User Classes and Characteristics [2](#__RefHeading___Toc441230981)

2.4 Operating Environment [2](#__RefHeading___Toc441230982)

2.5 Design and Implementation Constraints [2](#__RefHeading___Toc441230983)

2.6 Assumptions and Dependencies 2

3. External Interface Requirements [3](#__RefHeading___Toc441230986)

3.1 User Interfaces [3](#__RefHeading___Toc441230987)

3.2 Hardware Interfaces [3](#__RefHeading___Toc441230988)

4. System Features 3

4.1 Section 3

4.2 Interaction 3

4.3 Visualization 3

[4](#__RefHeading___Toc441230993).4 Basic Evaluation…………………………………………………………………………..4

4.5 Forums……………………………………………………………………………………..4

# Introduction

## Purpose

Requirement Specifications for implementing an Android based application for virtual experience of the topic being delivered by a lecturer on basics of computer system.

## Intended Audience

This SRS is intended for designers, developers and testers. All the specified features are of higher priority**. Designers** should carefully study the sections, ‘User Class and Characteristics’, ‘User Interfaces’, and ‘System Features’. **Developers** should study the sections, ‘Design and Implementation Constraints’, ‘Assumptions and Dependencies’, ‘User Interfaces’, and ‘System Features’. **Testers** should study the implemented application and detect all the bugs in the application.

## Product Scope

This app will provide the 3-D visualization of the computer system components. Visualization will help in understanding the topic in better way by providing each micro details of the component.

This app will be help student as well as teacher.

# Overall Description

## Product Perspective

This app has been designed keeping in mind for better understanding and visualization of basic computer systems in classroom. This app delivers a user friendly experience that helps the students to better learn and understand a topic given at hand. This app provides detailed **3-D MODEL** withdescription of each and every component that included in the given lecture.

## Product Functions

Major functions of login and registration system:

* Authenticate and Login user to the application.
* Enable a new user to register.
* Enable a registered user to change his password if he forgets the password.
* Enable a registered user to view his profile. Additional information viz. questions asked by him and answers posted by him.

Major functions of learning system:

* Enable a user to view the components in the very descriptive manner.
* Enable a user to zoom, rotate by 360°, scaling for every component.
* Provide an interface for admin to upload new components.
* Provide an interface for user to evaluate himself at each stages of interaction cycle through small basic quizzes.
* Enable a user to bookmark a model.

Major functions of discussion forums:

* Provide a search option.
* Enable logged in user to ask a question and post a material.
* Provide an interface for admin to approve post so that the post is not visible without admin approval.
* Provide an interface for user to view question and their corresponding answers.

## User Classes and Characteristics

It is considered that the user does have the basic knowledge of operating the internet and to have access to it. the administrator is expected to be familiar with the interface of the “Learning through interactive visualization”.

**Guest user** – Guests can use the product to understand the components. They can view the answer but they cannot ask and answer the questions.

**Registered user**–This class of user can interact through the application. They can ask as well as answer the question.

**System admin –**This class of user can approve the post and material send by the registered class of user. this class of user can also upload new model that will have all the specified features.

## Operating Environment

The software will operate on an Android machine like a smart-phone or a tablet.

## Design and Implementation Constraints

The software should not use much space and the processing power as it is to be run on smartphone.

The software should be as light as possible to increase the number of compatible devices, and hence maximize the user base.

## Assumptions and Dependencies

The software will work on any machine running on a version of android above Android 4.0.3.

# External Interface Requirements

## User Interfaces

The software will consist of three interfaces:

* An interface to switch between different sections of the museum.
* An interface to switch between the two modes of tour.
* In the interactive mode, there will be an interface which shows the navigation controls.

## Hardware Interfaces.

Through touchscreen and button appearing on screen machine will be used to give inputs to the software.

# System Features

This software can give a user an interaction with the component through visualization. User can zoom scale and rotate the model, just by pointing toward the model he can get the basic knowledge about that component.

## Section Menu

This feature gives user control his navigation through the different model covered till now in the class. This will also have the exit option and link to forums.

## 4.2 Interaction

This will have all the models and the way through which we can interact the application.

## 4.2.1 Details of the model

The feature will include a description of the respective components.

## 4.2.2 component under model

App will have various partition(models) and each models have various components along with their description and forums reference.

## 4.3 visualization

User can interact through scale, zoom, rotate the 3-d model.

## 4.4Evaluation

After interaction and visualization evaluation will help him in knowing whether he has understood the topic under that model or not through short quiz.

## 4.5 Forums

Under this section he can ask and answer question related to the respective models.