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| Requirements Specification (RS) |
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Requirements Specification (RS)

Document Control

Revision History

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| **Date** | **Version** | **Scope of Activity** | **Prepared** | **Reviewed** | **Approved** |
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Distribution List

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| Title of Use Case Model |  |
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# Introduction

## Purpose

The purpose of this document is to set out the requirements for the development of ……………

The intended customers are ……….

## Project Scope

The scope of the project is to develop a …………….The system shall have a ……………

John Smyth was involved in discussions with John Ryan from AN Company Ltd. To elicit the following requirements

This section also details any constraints that were placed upon the requirements elicitation process, such as schedules, costs, or the software engineering environment used to develop requirements.

## Definitions, Acronyms, and Abbreviations

AD Another Definition

……..

# User Requirements Definition

This section describes the set of objectives and requirements for the system from the customer’s perspective. What are the clients saying they want?

# Requirements Specification

All requirements should be verifiable. For example, experienced controllers shall be able to use all the system functions after a total of two hours training. After this training, the average number of errors made by experienced users shall not exceed two per day.

## Functional requirements

This section lists the functional requirements in **ranked order**. Functional requirements describe the possible effects of a software system, in other words, what the system must accomplish. Other kinds of requirements (such as interface requirements, performance requirements, or reliability requirements) describe how the system accomplishes its functional requirements. Each functional requirement should be specified in a format similar to the following:

Short, imperative sentence stating highest ranked functional requirement.

### Use Case Diagram

Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.

The Use Case Diagram provides an overview of all functional requirements.

### Requirement 1 <name of requirement in a few words>

The heading of this section should read, e.g., “Requirement 1: User registration” or “Requirements 1: Participant takes test”

#### Description & Priority

A description of the requirement and its priority. Describes how essential this requirement is to the overall system.

#### Use Case

Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.

**Scope**

The scope of this use case is to …….

**Description**

This use case describes the ………..

**Flow Description**

**Precondition**

The system is in initialisation mode……..

**Activation**

This use case starts when an <Actor>…………

**Main flow**

1. The system identifies the ………….
2. The <Actor> …………...(See A1)
3. The system …………..(See E1)
4. The <Actor> ………….

**Alternate flow**

A1 : <title of A1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 3 of the main flow

**Exceptional flow**

E1 : <title of E1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 4 of the main flow

**Termination**

The system presents the next ……….

**Post condition**

The system goes into a wait state

### Requirement 2 <name of requirement in a few words>

#### Description & Priority

A description of the requirement and its priority. Describes how essential this requirement is to the overall system.

#### Use Case

Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.

**Scope**

The scope of this use case is to …….

**Description**

This use case describes the ………..

**Flow Description**

**Precondition**

The system is in initialisation mode……..

**Activation**

This use case starts when an <Actor>…………

**Main flow**

1. The system identifies the ………….
2. The <Actor> …………...(See A1)
3. The system …………..(See E1)
4. The <Actor> ………….

**Alternate flow**

A1 : <title of A1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 3 of the main flow

**Exceptional flow**

E1 : <title of E1>

1. The system …………..
2. The <Actor> ………….
3. The use case continues at position 4 of the main flow

**Termination**

The system presents the next ……….

**Post condition**

The system goes into a wait state

**List further functional requirements here, using the same structure as for Requirements 1 & 2. Most systems would have at least five main requirements.**

## Non-Functional Requirements

Specifies any other particular non-functional attributes required by the system. Examples are provided below. **Remove the requirement headings that are not appropriate to your project.**

### Performance/Response time requirement

The performance requirements of the application are that the user can navigate the application seamlessly through the different sections. The application shouldn't crash when navigating through the different calculations, And each calculation should operate quickly and produce a result with minimal loading time.

### Availability requirement

The user will need to have an android device and google play store installed.

The application will have a set of basic calculations that are available to everyone through a free app on the google play store.

A full version of the application will give the user access to a full range of advanced calculations however this full version will cost a one time payment through the google play store.

### Recover requirement

In the event of the application crashing, the user will be given a prompt to shut down the application and to send the details of the crash to us via email.

### Robustness requirement

The robustness of the application will be strong as it will run on multiple versions of android from 4.4 - 7.

### Maintainability requirement

The application shouldn't need to be maintained or updated as the calculations and functions of the application are quite simple.

### Portability requirement

The application shouldn't be difficult to port to ios/windows as it is fairly simple in its design.

### Extendibility requirement

The application should be easily extended, Once the Database of values has been created adding new calculations or values will be easy.

### Reusability requirement

The code of the application could easily be reused in other applications, as the database and gui code could be reused to create a similar app that uses calculations outside of audio acoustics.

### 

# GUI

Include mock-ups of the key pages or stages of the system. Explain how they are linked. Explain how you addressed above requirements in the design. It is important that the mock-ups are in line with the functional requirements above, e.g., if one of your requirements is “user registration” then one of the screens listed in this section should show a registration page.

# System Architecture

Use a class diagram to outline the structure of the system. Explain briefly why you have chosen this architecture. You might want to use Visio or Rational Rose to create these.

# System Evolution

This section describes how the system could evolve over time.