

## Fall 2020 Mid-Term Assignment

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Course Name	Max. Marks	Max Duration	Date	Instructor
Software Requirement Specification	30	6 Days	13/4/2020	Aasma Khan

- **Attempt all questions.**
- **Marks will be given as per the DEPTH of the answer, not LENGTH.**

Question No: 01

(15\*1=15)

MCQs

1. Which of the following is correct for the types of requirements?  
A. Reliability  
B. Availability  
C. Usability  
**D. All of the above**
2. Select the developer-specific requirement?  
A. Availability  
B. Portability  
C. Usability  
D. Maintainability  
**E. Both B & D**
3. The following is not a step of requirement engineering?  
**A. design**  
B. elicitation  
C. documentation  
D. analysis
4. Symbolic representation of QFD is...  
A. quality function development  
**B. quality function deployment**  
C. quality function design  
D. none of the mentioned
5. What are the system requirement of the documents..?  
**A. SRS**  
B. SDD  
C. SRD  
D. DDD
6. The most important stakeholder is \_\_\_\_\_ :  
A. Middle-level stakeholder  
B. Entry level personnel

**C. Users of the software**

D. Managers

**7. Which of these steps is included in the Requirement engineering process...**

A. Requirement Gathering

B. Feasibility study

C. Validation

**D. Both A & B**

**8. In the elicitation process, the developers discuss with the client and end users and know their expectations for the software.**

A. Organizing requirements

**B. Requirement gathering**

C. Negotiation & discussion

D. Documentation

**9. The process to gather the software requirements from the client, analyze and document them is known as.....**

A. Software system analyst

B. User interface requirements

C. Requirement elicitation process

**D. Requirement engineering process**

**10. The interviews held between two persons across the table is..**

A. Written

B. Non-structured

**C. One-to-one**

D. Group

**11. The computer-based system can have a profound effect on the design that is chosen and also the implementation approach will be applied.**

**A. Behavioural elements**

B. Flow-oriented elements

C. Scenario based elements

D. Class-based elements

**12. Information systems is concerned with..**

A. Systems where software is used as a controller in some broader hardware system

**B. Processing information which is held in some database.**

C. Combination of A and B

D. None

**13. Embedded systems is concerned with..**

**A. Systems where software is used as a controller in some broader hardware system**

B. Processing information which is held in some database.

C. Combination of A and B

D. None

**14. Command and control systems is concerned with..**

A. Systems where software is used as a controller in some broader hardware system

B. Processing information which is held in some database.

**C. Combination of A and B**

D. None

**15. The requirements document describes:**

- A. The services and functions which the system should provide
- B. The constraints under which the system must operate
- C. Overall properties of the system i.e.. constraints on the system's emergent properties
- D. All of the above**

**Question No: 02**

**(5)**

State what the project you have selected for your SRS document is required to do and the constraints under which it is required to operate

ANSWER: **Voice Based Email for Blind People**

We describe the voicemail system architecture that can be used by a blind person to access e-mails easily and efficiently. The contribution will allow the blind people to send and receive voice-based e-mail messages in their native language with the help of a computer or a mobile device.

Our proposed system GUI will be against the GUI of a traditional mail server. our proposed architecture will perform better than that of the existing GUIs.

It will have the feature of speech to text as well as text to speech with speech reader which makes designed a system to be handled by a visually impaired person and blind people.

**Constraints:**

Audio based emails is only preferable for blind peoples. So that they can easily respond to the audio instructions .

**Question No: 03**

**(10)**

With respect to the project you have selected for your SRS document, write a two to three (2-3) page paper in which you:

1. Create a Software Requirement Specification (SRS) that includes the following:

A detailed description of both user and system requirements. At least four (4) user requirements and four (4) system requirements should be provided

.

ANSWER:

## **INTRODUCTION**

The navigation system uses TTS (Text-to-Speech) for blindness in order to provide a navigation service through voice. Suggested system, as an independent program, is fairly cheap and it is possible to install onto Smartphone held by blind people. This allows blind people to easy access the program. An increasing number of studies have used technology to help blind people to integrate more fully into a global world. We present software to use mobile devices by blind users. The software considers a system of instant messenger to favour interaction of blind users with any other user connected to the network. Nowadays the advancement made in computer technology opened platforms for visually impaired people across the world. It has been observed that nearly about 2 million blind persons are present in PAKISTAN . In this paper, we describe the voice mail architecture used by blind people to access E-mail and multimedia functions of the operating system easily and efficiently. This architecture will also reduce cognitive load taken by the blind to remember and type characters using the keyboard. It also helps handicapped and illiterate people.

### **Existing System :**

In previous work, blind people does not send email using the system. The multitude of email types along with the ability setting enables their use in nomadic daily contexts. But these emails are not useful in all types of people such as blind people they can't send the email. Audio based email are only preferable for blind peoples. They can easily respond to the audio instructions. In this system is very rare. So there is less chance to available this audio based email to the blind people.

### **Proposed System :**

We describe the voicemail system architecture that can be used by a blind person to access e-mails easily and efficiently. The contribution made by this research has enabled the blind people to send and receive voice-based e-mail messages in their native language with the help of a computer or a mobile device. Our proposed system GUI has been evaluated against the GUI of a traditional mail server. We found that our proposed architecture performs much better than that of the existing GUIs.

### **User Requirements :**

- A system through which visually impaired people can send and receive E-mails.
- Language used in the system should be understandable and can also be changed.
- The system should be Easy to control and operate.

## System Requirements :

### **Hardware Requirements:**

- System : Pentium IV 2.4 GHz.
- Hard Disk : 40 GB.
- Floppy Drive: 1.44 Mb
- Monitor : 15 VGA Color.
- Mouse : Logi tech.
- RAM : 512 Mb.
- MOBILE : ANDROID

### **Software Requirements:-**

- Operating System : Windows XP/7.
- Coding Language : Java 1.7
- Tool Kit : Android 4.4 ABOVE
- IDE : Eclipse
- Front End : Android and Java
- Back End : My SQL.

**B.** A detailed description of both functional and non-functional requirements. At least four (4) functional requirements and four (4) non-functional requirements should be provided.

### **ANSWER:**

#### **NONFUNCTIONALREQUIREMENTS**

**1. Device Software Compatibility:** The mobile interfaces must be compatible with Android. Area : Portability

**2. Obstacle detection :** The system allows for obstacle detection within the range of 1 meters. Area : Space Efficiency

**3. Language :** The language should be localized to the preference of the user. Area : Delivery

**4. Time Response:** Voice based email system must perform in a proper time constraint that reflects average talking speed, language, and voice recognition  
Area : Performance Efficiency

## FUNCTIONAL REQUIREMENTS

**1: Voice detection:** In Voice based email the system should be able to detect voice of the user while using the application.

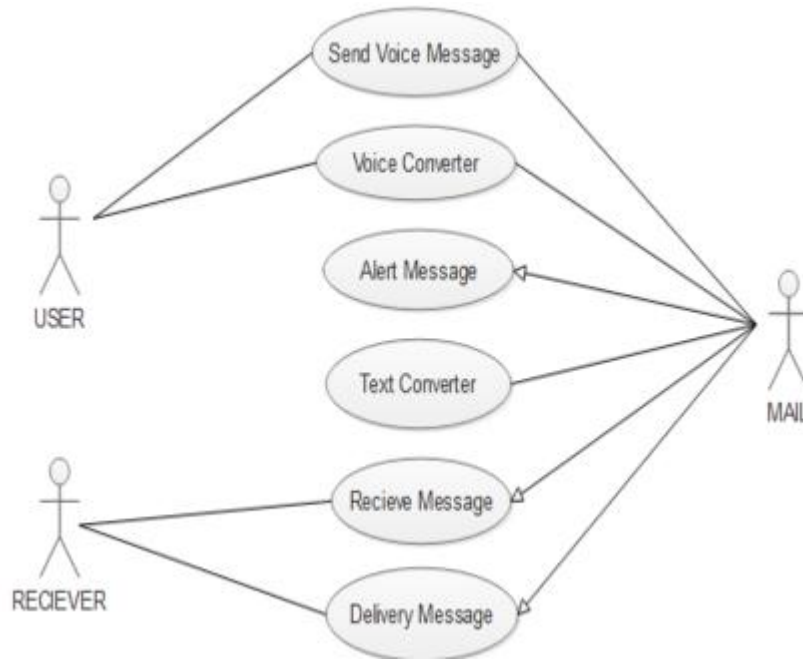
**2: SPEECH\_ TO\_ TEXT CONVERTER:** The system acquires speech at run time through a microphone and processes the sampled speech to recognize the uttered text. The recognized text can be stored in a file. We are developing this on Android platform using Eclipse workbench. Our speech-to-text system directly acquires and converts speech to text. It can supplement other larger systems, giving users a different choice for data entry.

**3:TEXT\_ TO\_ SPEECH Converter:** Converting text to voice output using speech synthesis techniques. Although initially used by the blind to listen to written material, it is now used extensively to convey financial data, e-mail messages, and other information via telephone for everyone. Text-to-speech is also used on hand held devices such as portable GPS units to announce street names when giving directions. Our Text-to-Speech Converter accepts a string of 50 characters of text (alphabets and/or numbers) as input.

**4: USER PREFERENCES:** The system should be easy to use and changes can be made according to the user.

2. Develop a use case diagram to summarize the functional requirements of the system through the use of Microsoft Visio or its open source alternative

**ANSWER:**



**USE CASE DIAGRAM FOR VOICE BASED EMAIL FOR THE BLIND**

Good Luck ☺