LMS FOR VISUALLY IMPAIRED USING NLP

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PROJECT GUIDE :PROF. APEKSHA MOHITE

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ABSTRACT

THE INTERNET HAS BECAME AN IMPORTANT TOOL FOR LEARNERS TO ACQUIRE INFORMATION AND KNOWLEDGE THAT ENCOMPASSES VARIOUS ELEMENTS SUCH AS TEXT, GRAPHIC, NUMERIC, AND ANIMATION FOR THEIR LEARNING PROCESS. HOWEVER, THE VISUALLY IMPAIRED LEARNERS HAVE NO ACCESS AT ALL TO THIS TOOL NOR CAN IT BE EASILY TAUGHT TO THEM AS THEY ARE NOT ABLE TO SEE THE LINKS IN THE WEB PAGES. THE SYSTEM HIGHLIGHTS THE VOICE NEVIGATION THROUGH SYSTEM, CHECKING, SENDING AND RECEIVING MESSAGES AND LISTENING TO THE CONTENT OF THE SEARCH ONLY BY GIVING A VOICE COMMAND TO THE SYSTEM. IN ADDITION, THE SYSTEM IS BUILT WITH A TRANSLATOR THAT HAS THE FUNCTIONALITY TO CONVERT HTML CODES TO VOICE; VOICE TO TEXT AGAIN . THIS SYSTEM COMPRISES OF MAIN THREE MODULES NAMELY: VOICE NAVIGATION SYSTEM, TEXT-TO-SPEECH (TTS),SPEECH TO TEXT(STT). IT IS ORIGINALLY DESIGNED AND DEVELOPED FOR THE VISUALLY IMPAIRED LEARNERS, CAN BE USED FOR OTHER USERS OF SPECIALLY NEEDS LIKE THE PHYSICALLY IMPAIRED LEARNERS.

INTRODUCTION

- MANY PEOPLE WITH NO USABLE VISION, WHO WOULD NEED SCREEN READING SOFTWARE TO USE A COMPUTER, ARE ATTRACTED TO THE IDEA OF OPERATING THEIR COMPUTER BY VOICE (KNOWN AS VOICE IN-VOICE OUT). HOWEVER, THE KEYBOARD IS STILL THE MOST EFFICIENT WAY OF INPUTTING DATA INTO YOUR COMPUTER. PROVIDING THERE IS NO PHYSICAL DIFFICULTY THAT MAKES THE USE OF A KEYBOARD IMPOSSIBLE, WE WOULD RECOMMEND LEARNING TO TOUCH TYPE, BEFORE TRYING SOLUTIONS INVOLVING USING SCREEN READERS AND VOICE RECOGNITION TOGETHER.

- THERE IS STILL NO SYSTEM OFFERING EASY AND INTELLIGENT VERBAL INTERACTION BETWEEN MAN AND MACHINE (AS SEEN ON SCIENCE FICTION PROGRAMS), BUT RATHER COMPLEX SOLUTIONS THAT WORK QUITE WELL IF SET UP AND USED CORRECTLY.

LITERATURE REVIEW

Systematic Literature Reviews are great tools when embarking on a extended research effort like a PhD or a group project. Very common in other sciences like the natural sciences and medicine, within computer science and engineering we have found only references to them from the field of Software Engineering. The first step is defining the research question . Some might say: well, sometimes you don't know what the research question is until you've delved into the area sometime. Anyway, human-computer interaction is a very wide field and each particular area has developed its own methods and relevant research questions.

Learning is often used as a generic term for web-based teaching and learning programs . In the E-learning project we shall attempt to fulfill the following minimum list of requirements and guidelines for the e-Learning environment and its learning modules:

- The educational content taught is enhanced by the integration of multimedia elements like audio elements.

- COMMUNICATION CHANNELS BETWEEN THE STUDENTS ARE IMPLEMENTED BY, E.G., PROVIDING EDUCATIONAL INFORMATION TO STUDENTS THROUGH VOICE OUTPUT ON VOICE INPUT

- THE E-LEARNING MODULES ARE PARTS OF A NETWORK WHICH INTEGRATES A HUGE VARIETY OF INFORMATION RESOURCES.

- THE STUDENT HIMSELF AND HIS ABILITY TO RECEIVE INDIVIDUALLY TAILORED INFORMATION IS THE CENTER OF INTEREST.

THUS, LEARNING MANAGEMENT SYSTEM THROUGH VOICE WILL GRADUALLY HELP BLIND STUDENTS TO ACHIEVE THEIR GOALS BY WHICH THEY WERE NOT ABLE TO ACHIEVE DUE BEING DISABLED . INCREASING THE LITERACY RATE THROUGH THIS PROJECT WILL BE THE END GOAL.
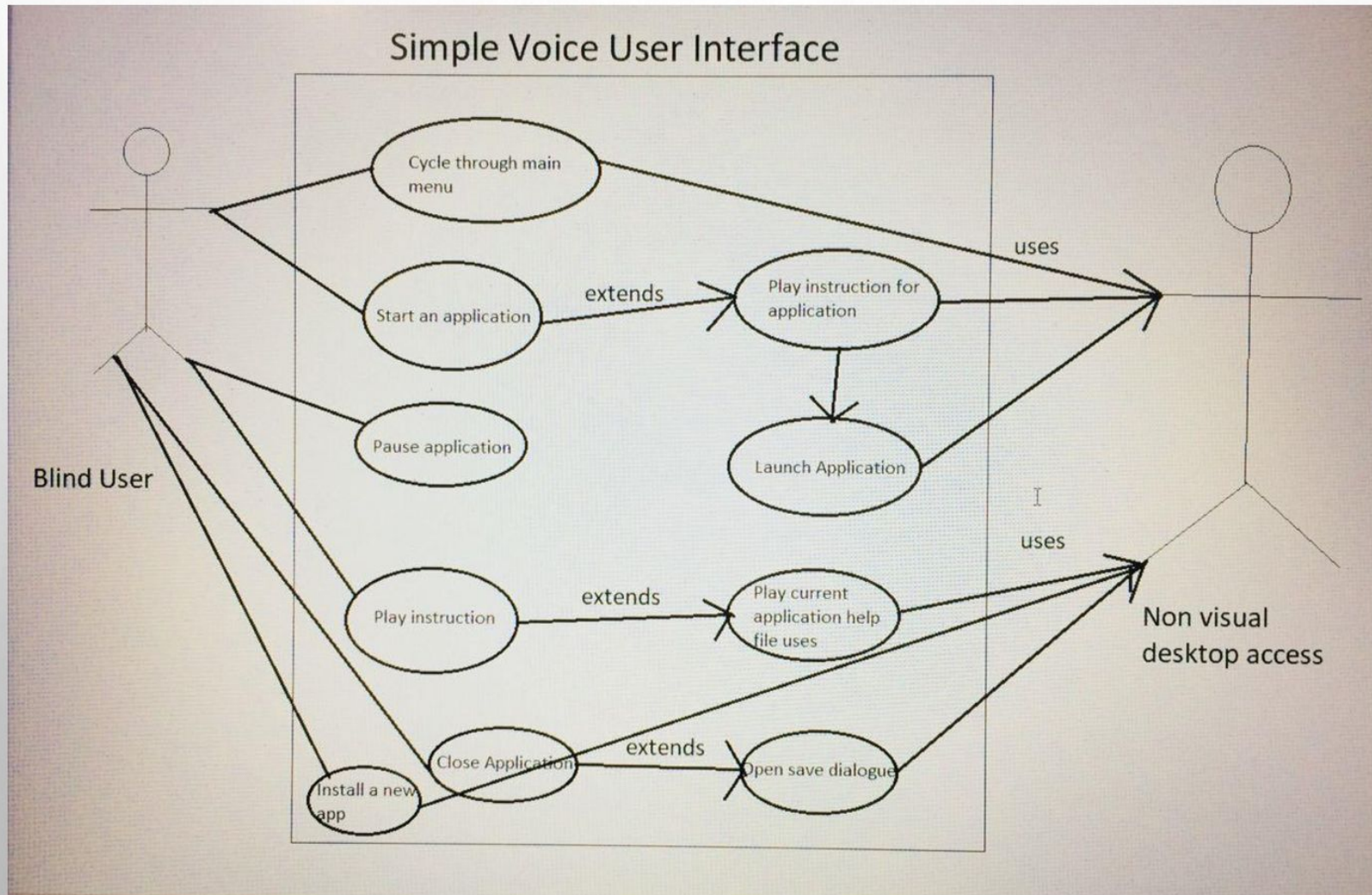
PROJECT SCOPE
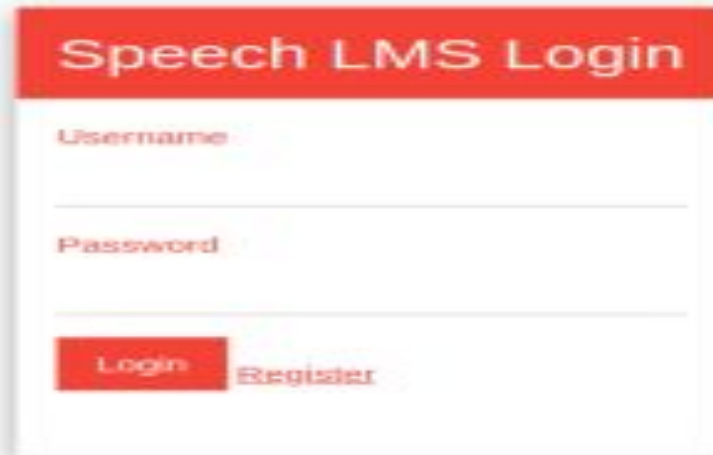
WE ARE TRYING TO MAKE THIS PROJECT IS TWO PARTED:

1. WEBSITE.

2. APPLICATION.

THE BOTH PART WILL HELP VISUALLY IMPAIRED LERNERS TO OPERATE A WEBSITE AS WELL AS APPLICATION BY VOICE ALSO THEY WILL GET RELATED LEARNING MATERIAL OF ALL SUBJECTS.

USE-CASE DIAGRAM

Simple Voice User Interface

Cycle through main menu

Start an application — extends → Play instruction for application

Pause application

Launch Application

Play instruction — extends → Play current application help file uses

Install a new app

Close Application — extends → Open save dialogue

Blind User

Non visual desktop access

uses

uses

IMPLEMENTATION

Student

Username	Password	Branch	Semester
rishabh	12345678	IT	8

Teacher

Username	Password	Branch
name	pass	IT

Username
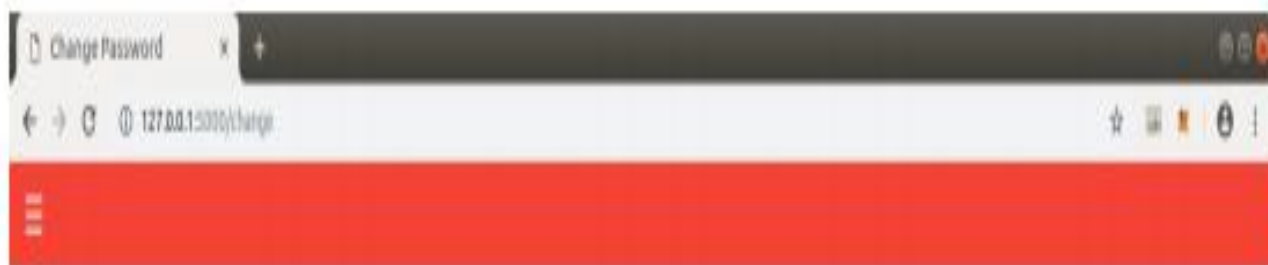
Remove

SUMMARY

- GOOD AND POOR INTERACTION DESIGN: THE FOLLOWING EXAMPLES WERE USED TO ILLUSTRATE GOOD AND POOR DESIGN.

- VOICEMAIL SYSTEM A KEY QUESTION FOR INTERACTION DESIGN IS HOW DO YOU OPTIMIZE THE USER'S INTERACTIONS WITH A SYSTEM, ENVIRONMENT, OR PRODUCT. ONE WAY IS TO MAKE CHOICES BASED ON AN UNDERSTANDING OF THE USERS. THIS WOULD INCLUDE:

- TAKING INTO ACCOUNT WHAT PEOPLE ARE GOOD AND BAD AT.

- CONSIDERING WHAT MIGHT HELP PEOPLE WITH THE WAY THEY CURRENTLY DO THINGS.

- THINKING THROUGH WHAT MIGHT PROVIDE QUALITY USER EXPERIENCES.

- LISTENING TO WHAT PEOPLE WANT AND GETTING THEM INVOLVED IN THE DESIGN.

- USING 'TRIED AND TESTED' USER-BASED TECHNIQUES DURING THE DESIGN PROCESS.

THE ADVANCES MADE IN LAST DECADE IN HAVE LMS ALMOST MADE IT IMPOSSIBLE TO REALIZE WHICH CONCEPT IS FICTION AND WHICH IS AND CAN BE REAL. THE THRUST IN RESEARCH AND THE CONSTANT TWISTS IN MARKETING CAUSE THE NEW TECHNOLOGY TO BECOME AVAILABLE TO EVERYONE IN NO TIME. HOWEVER, NOT ALL EXISTING TECHNOLOGIES ARE ACCESSIBLE AND/OR AFFORDABLE BY PUBLIC. IN THE FIRST PART OF THIS SECTION, AN OVERVIEW OF THE TECHNOLOGY THAT MORE OR LESS IS AVAILABLE TO AND USED BY PUBLIC IS PRESENTED. IN THE SECOND PART, AN OUTLOOK OF THE DIRECTION TO WHICH LMS RESEARCH IS HEADING HAS BEEN DRAWN.

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THANK YOU...!!