

NAYAN: “E-college System for Visually Challenged Students”

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Abstract- This application helps the people that are visually challenged to carry on the tasks, for which they are dependent on someone else to be done. This application covers up the process from admission to result of the students using audio input. Important notices are being notified in the form of notifications to the students. The aim of development of this application is to replace manual involvement with audio, student don't need to rely on another person to complete the process.

I.INTRODUCTION: -

With advances in new technology, mobile devices have grown in recognition to emerge as one of the maximum commonplace customer devices. Cell telephones are very essential a part of cutting-edge lifestyles. Many people want to make a call or send a message at every time from everywhere. For blind and motion-impaired humans this problem is more obvious, but other people additionally frequently face this problem, e.g., while using or the use of a smart-cell phone beneath bright, sunshine. Sighted customers often locate them inevitably placed beneath situations in which non-visual interaction is needed.

“Nayan” is an android application which helps voice commands. The utility is evolved for visually impaired human beings. After unlocking the mobile telephone, the application can be launched without any voice command. The structures accept voice command and perform the operations according to it. For acting the further task, it first translates the voice into textual content after which produces output in the form of voice. It performs simple features such login, admission, lectures, exam and result previously visually impaired human beings want to function the phone keys manually by way of remembering the location of keys. But in case of this software they just ought to operate the phone by way of voice command. The blind human beings face demanding situations day by day in speaking with the sector round them. They have to depend on their sighted colleagues for making a cell phone name and gaining access to different mobile functionalities. This device is a voice recognizing software for cellular phones that allow get right of entry to most of the functionalities of the phone and will make it feasible for visually impaired human being to connect to the society.

I.I PROBLEM STATEMENT: -

The primary hassle of the humans that are visually challenged is that they may be dependent on someone else with regards to any academic manner as an instance filling up of any institutional form. This software enables the students to carry out the tactics on their very own. Audio based totally input is been provided in order that there is no guide involvement and the techniques may be finished conveniently notifying essential notices through notifications is been protected up. Audio assessments may be completed so that there may be no need of an author. This is how the software facilitates to triumph over the demanding situations faced by means of the visually challenged college students.

I.II OBJECTIVES: -

- 1) To overcome the challenges faced by the visually challenged students during their academic studies.
- 2) To complete the admission process conveniently.
- 3) Provide audio notes and notices.
- 4) Replacing writer with audio exams

I.III SCOPE: -

This application can be use in

- 1) school,
- 2) colleges and
- 3) Universities

I.IV LITERATURE: -

Existing: -It consisted of providing notes. Examinations are conducted in the form of MCQ's.

Proposed: -The complete admission process, notes and notifications, assignments, examinations and results will be covered up in this application.

Challenges: -Quite difficult to access in noisy area as proper input cannot be provided to the application.

Any disturbance in the internet connection would stop the process.

I.V ANALYSIS: -

Spiral model is used as the designing model for this application.

Windows 10 as operating system for PC, firebase server is used for database connectivity, with the help of HTML and CSS, GUI is made effective, python were used in backend.

Monitor, android device, internet connection are the hardware systems used for this application.

II. FLOWCHART: -

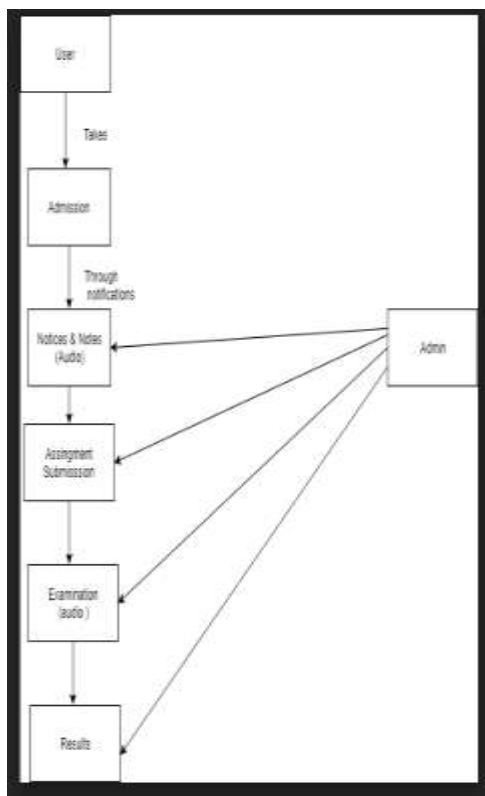


Figure II.I –Flowchart

III. MODULES AND FUNCTIONS: -

III.I Admin module: -

1) Add Students: New student details will be added by the admin itself.

2) Add Contents: Admin can add new content with its details.

3) Add notifications: Admin can add new video with its details such as assignment, notes, holiday information, lectures timetable, exam timetable, result in the app “Nayan”.

4) View Query: All the Queries received from the registered students will be answered by admin itself.

III.II Student module:-

1) Login: A unique style voice based login is used where a student speaks his/her Login ID and Password to get authenticated.

2) Recent Trends: Once student logs in successfully, Updates from admin section will be read out loud.

3) Notice: Option of assignment, lecture, holiday, exam timetable, result details. Student can add a Comment by voice.

4) Query: Students can Send Query or View Answers.

III.III Function: -

1) The student will be notified about the notices on his/her device through notifications.

2) The student can access the notes provided to them whenever he/she wants.

3) The student can give their exams without any second person needed on his/her own.

4) They will get their results on their device directly.

IV. ALGORITHM DEVELOPMENT: -

1) Text to speech conversion

Text to speech (TTS) makes an android device read the text and convert it to audio out via the speaker. Android TTS supports multiple languages. TTS is a simple but powerful feature. It can also be effectively used in mobile APPS dedicated to visually impaired people.

syntax

```
TextToSpeech tts = new TextToSpeech (this, this);
```

```
tts.setLanguage(Locale.US);
```

```
tts.speak("Text to say aloud", TextToSpeech.QUEUE_ADD, null);
```

2) Speech to text conversion

Android has a inbuilt feature that is speech-to-text through which user can provide speech input to the software. In the background speech input will be converted to text and perform action in the form of TTS.

First we need to create a Recognizer Intent by setting necessary flags such as **ACTION_RECOGNIZE_SPEECH** – Simply takes user’s speech input and returns it to same activity **LANGUAGE_MODEL_FREE_FORM** – Considers input in free form English **EXTRA_PROMPT** – Text prompt to show to the user when asking them to speak

V. RESULT AND CONCLUSION:-

This project demonstrates the solution of the hassle faced with the aid of visually impaired humans during there education. It lets in environmental boundaries to be eliminated for people with a wide range of disabilities. In this project we've supplied the gadget designs and use cases of the software. It is a universal voice control assistant on Android working device. The application gives enhancements to all programs strolling on cell machine the software can benefit massive quantity of customers with time- honored eyes-unfastened and palms-loose voice control of their cell gadgets.

V.I GUI DESIGNS:-



Figure V.II



Figure V.I.II

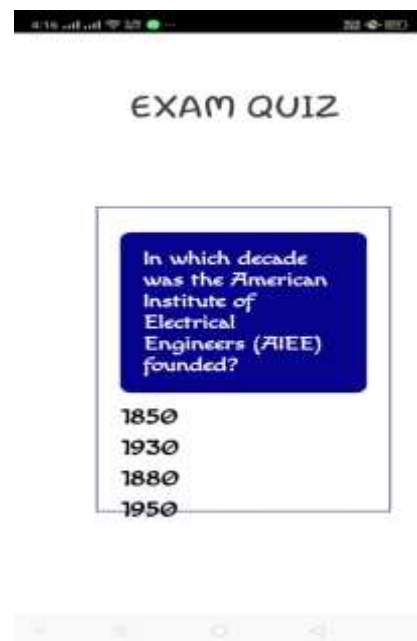


Figure V.I.III

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