

Interactive Voice Response System

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Abstract— The Interactive Voice Response (IVR) System serves as a bridge between people and computer databases. The IVR system uses prerecorded or computer generated voice responses to provide information in response to an input from a user. Interactive Voice Response (IVR) is system application that prompts parents with voice messages and options and processes input selections from the menus. The IVR script responds to the input by providing appropriate information in the form of voice answer. Interactive Voice Response, or IVR system, runs on computers. IVR is usually part of a larger application that includes database access. An IVR application provides prerecorded voice responses for appropriate situations, input signal logic, and access to relevant data. The software converts the data into a voice format and provides voice response. The voice response by the system is then heard by the user.

Today's busy parents are sometimes not able to attend parents- teacher meetings due to their busy schedule. So parents are not aware about their wards attendance and marks. To overcome this problem college needs software, this can provide information to parents whenever they require. In order to evaluate this project, the methodology is based on generally the various modules required. C# Dotnet is used for designing the front end and MS Access is used for the back end.

Keywords: *Voice, Admin, Parent, attendance, marks, login.*

I. INTRODUCTION

A. BACKGROUND

Now days every institution needs automation. As a part of college automation, we have decided to do a project. Interactive Voice Response System for College Automation. Our project allows the user to know the student's attendance and marks quickly. An IVRS is an exemplary innovation in the area of voice assisted browsing and data retrieval, data that contains information of interest and has straight relevance to the user. This application software allows full resource sharing and integration with the database of system, the Software solution for the complete computerization of Educational Institutions. The software first converts the data into a voice format and provides output. The voice response by the system is then heard by the user i.e. attendance and marks.

Aim & Objectives

Aim:

To provide information of students to their parents such as attendance and marks.

Objective:

The main objective is to get the user what he or she needs in a few steps as possible while allowing for security and logistical needs.

B. Motivation

Interactive Voice Response systems represent a powerful means for automation and customer facing problems. IVR systems process play prerecorded messages, provide user with real-time data from any number of databases. IVR technology requires virtually no human interaction over the system from developer side, as the user's interaction with the database is predetermined by what the IVR system will allow the user access to. IVR is an automated computer telephony integration (CTI) system. IVR systems can be used so that the parents can receive up-to-date information instantly and easily of their ward. Its decreases the human efforts on large extent.

C. Proposed Work

Interactive Voice System for College Automation. Our project allows the user to know the student attendance and marks quickly and easily. . It will be very obliging to the parents to be acquainted with their son/daughter recital in the college. Visual Basic has been used for software programming. Presentation in the class and outcome of the university are made reachable to students and parents by our project. Interactive Voice Response (IVR) is a software application that accepts a combination of voice and text. It provides appropriate responses in the form of voice and text. IVR is usually part of a larger application that includes database access. An IVR application provides pre-recorded voice responses for appropriate situations and access to relevant data, and potentially the ability to record voice input for later handling.

II. LITERATURE SURVEY

A. Related Work

[1], stated by Jack Ganske, in www.blissit.org, we studied that Interactive Voice Response System (IVRS) is a technology that allows a computer to interact with humans through the use of text input. IVRS allows user to interact with parents through voice output. IVRS systems can respond with prerecorded or dynamically generated audio to further direct users. IVRS applications can be used to control almost any function where the interface can be broken down into a series of simple interactions.

[2], Information and Communication Technologies and Development paper of IEEE by M.P. Plauche, we gathered the basic knowledge about IVRS, its requirements, its working and implementation.

[3], IEEE pervasive computing by E. Brewer, from this paper we got the idea about its need and future scope and we studied about the SAPI which will be used in the project for converting text into voice. Its requirement, features and implementation.

[4] www.wikipedia.org/wiki/Interactive_voice_response, from this site we gathered the knowledge about designing of form and their coding.

[5] www.web.cmc.net.in/products/ivrs/ivrs.asp, we referred this site to get knowledge about the database connectivity and retrieving data from the database.

B. PROBLEM STATEMENT

Today's busy parents are sometimes not able to attend parents teacher meetings due to their busy schedules. According to their convenience they can get the information of their wards through interactive voice response system (IVRS) as per their convenience. Now-a-days every institution needs automation. As a part of college automation, we have decided to do a project. Voice Interactive System for College Automation. Our project allows the user to know the student attendance and marks quickly.

III. PROPOSED SYSTEM

In software we have to implement the basic code for working of our system. For this we will be using Visual Basic and MS Access. We will be designing database using SQL. Database will consist of student's information like student's attendance and student's marks along with their roll numbers. With the help of Visual basic, we will be doing front end coding. Front end will consist of various form which will help the college or organization in adding, updating or deleting the data from the database. The below flowchart shows the procedure to get login in the IVRS software. These IVR's get information from databases, convert to voice, and speaks it back to the user(parent).

Whenever some parent want to know the attendance and marks of their ward they have to first login into parent login form. If the login Id and password is correct then the further process will be carried out otherwise they have to login again. If the user is admin then the further process of admin will be carried out otherwise the process of parents will be carried out the parent will get the attendance marks of their ward in text as well as voice message.

A. FLOWCHART

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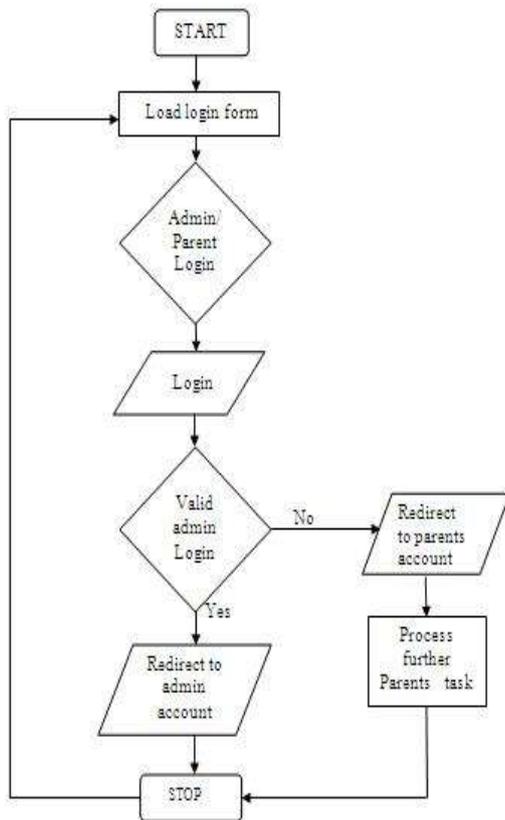


Fig no:1. Flow Chart

B. BASIC STEPS

- Step1:** Admin will login.
- Step2:** Admin will enter the student attendance.
- Step3:** Admin will enter the student marks.
- Step4:** Parent will login.
- Step5:** They can see their ward attendance.
- Step7:** They can see their ward marks.
- Step8:** After clicking on IVRS button, it will give the particular student data through text and voice.

C. MODULES

i. Admin Module:

- Login.
- Add personal details of each student.
- Add student attendance.
- Add student marks.

Administrators organize and manage the administration, support systems and activities that enable the effective running of an educational institution. The majority are based in higher or further education with opportunities also available in schools and private colleges. Admin will get logged in first, he/she can add personal details, attendance and marks of students which will get stored in the database for further access. The Fig. below shows the admin process.

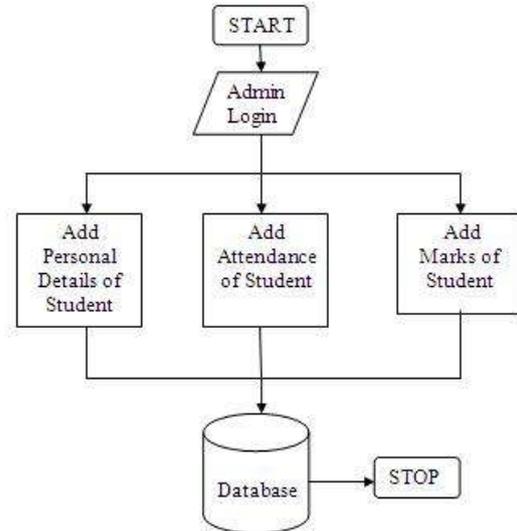


Fig.2. Admin Module

ii. Parent Module

- Login.
- See student attendance.
- See student marks

This module will contain data entered by admin which will be access by parents through text and voice message. The below figure shows the process of user(parent).

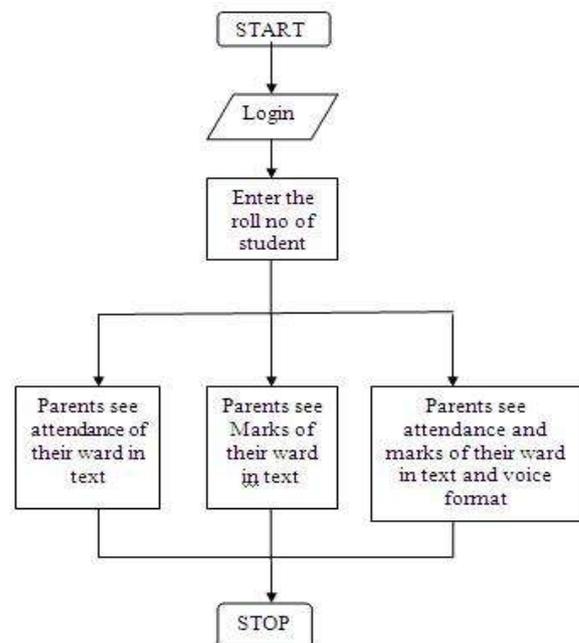


Fig.3.Parent Module

D. PROJECT PLAN

Analysis of existing scenario: In the present scenario the parent has to visit college for collecting their ward details in page format.

Methodology: First we will design and code for login form which can be accessed by admin then we will create database in which admin will enter the marks and attendance of every student. After this we will design and code for parent login form through which the parent will access the student data through text message. Then we will design and code for IVRS button when parent will click on button then they will get data of their ward through voice message.

Testing: The project will be tested by code and output will be generated.

Conclusion: The system designed will be intelligent for interaction and will suitably provide good responses to the caller who can access it. It will be truly a responsible system for human mankind. According to application available we can use the best appropriate method.*output*

A. The below figure 3 shows the login form of admin



Fig.3 admin form

This is the login form of admin which help the admin members to get login to access the software. The username and password set should be entered in the login box. The member(admin) can access it any time if it have valid password and user id.

B. The below figure 4 shows the form to fill the student Personal details.

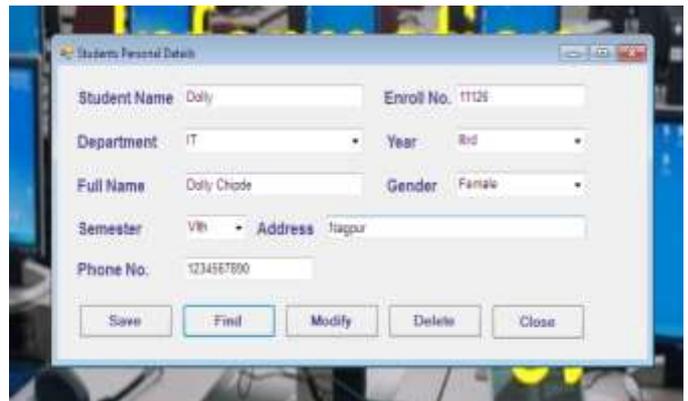


Fig.4 students personal details

After the admin get logged in he/she have to first fill the students personal details. With the help of save button we can save the data in the database. Find button helps the admin to search the data of particular student. Modify button can be used to make changes in the data which is saved earlier. Delete button will help the admin delete all the data.

C. The below figure 5 shows the attendance form

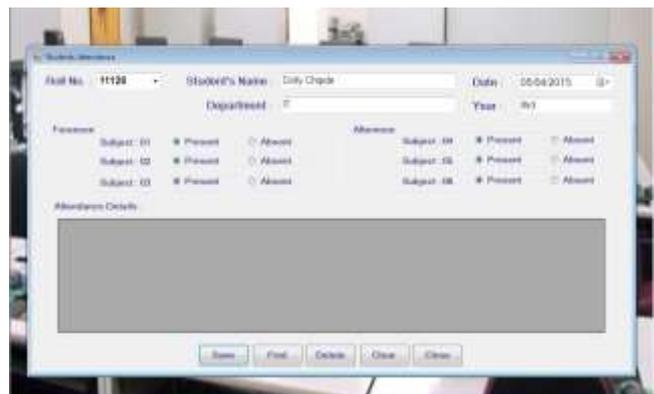


Fig.5 attendance form

After filling all the personal details of student admin have to fill the attendance of the student on daily basis. With the help of save button student attendance which is marked get saved into the database. Delete button is used to delete the data permanently. Clear button is used to clear the data which was filled earlier.

D. The below figure 6 shows the students mark form

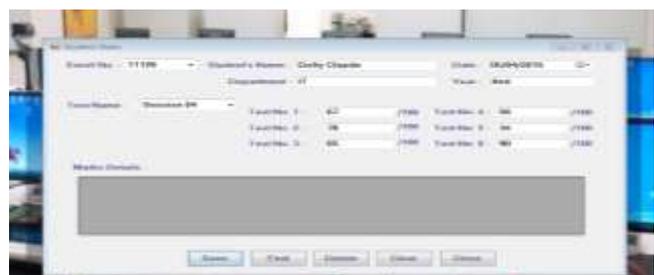


Fig.6 students marks

After adding the students attendance admin member can add the marks of student how much they scored in each subject. Student marks get saved in the database with the help save button, marks can be also be deleted with the help of delete button.

E. The below figure 7 shows the login form of parent

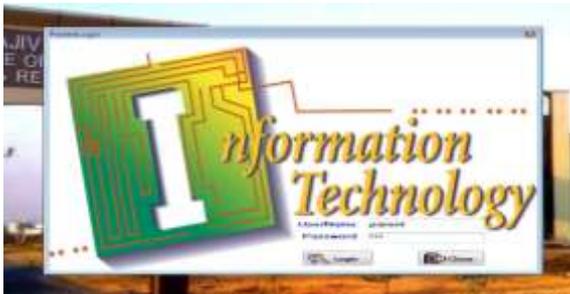


Fig.7 login form of parent

The parent can get logged in system using above form to access the software. The valid username and password set should be entered in the login box.

F. The below figure 8 shows the students attendance which is helpful for parents



Fig.8 students attendance

Once the parents get logged in they have to enter the roll no of student first, using find button. The parent can see the student attendance which was saved by the admin member in the database. The output is shown in text format.

G. The below figure 9 shows the form to find students marks.



Fig.9 student marks

Similarly, here also the parents have to enter students roll no. to see the students marks in each subject in text format.

H. The below figure 10 shows the form for getting students details after entering the roll no.



Fig.10 students details form

Parents can get details of attendance and marks after entering the roll no of student in text and voice format at once.

V .APPLICATION

I.V.R.S. is a unique solution for problems in existing manual system. I.V.R.S. is self assured automation system. Implementation of I.V.R.S. with the help of standalone system is an innovative idea.

The I.V.R.S. can be used in any small or big industries or companies or campuses, where the communication is the important thing for getting some correct and possible information. The Interactive Voice Response System is use in this type of companies/industries/campuses just for reduce human efforts. It can be use by handicap or physically disable persons too. The application of this project may be as below:

- ❖ A .Voice- activated dialers(Call center routing)
- ❖ B. Anonymous access (Bank balance inquiry)
- ❖ C. Stock lookup and quotes
- ❖ D. Customer satisfaction surveys
- ❖ E .Political polls
- ❖ F .Order entry and tracking
- ❖ G. Information lookup
- ❖ H. Entertainment and information (Movie schedules, etc.)
- ❖ Clinical trials
- ❖ J. Product knowledge quiz line

VI. RESULT

IVRS can be used in organizations to know about various departments, mode of working and levels of control. Hardware circuitry of IVRS is very compact and it can be used as a card in computer. By the widespread of internet it is possible to know information from anywhere in the world with the advanced features of Interactive Voice Response System. In this system Admin (Teacher) can updates students details like attendance, marks, etc. and

VII. Discussion

The biggest advantage of IVR for small and large organizations is to save time and money. IVR systems have the advantage that customers feel like they're being attended to, even if it's just by a machine. If you have a simple question, it's better to get a quick answer from a computerized operator than to wait ten minutes on hold before talking to a human being. Interactive Voice Response System has been the latest technology; each provides the foundation for providing convenient new IVRS services for customers as well as reduced operational costs, improved customer satisfaction and retention, increased return on investment and a stronger market presence for the IVRS services provider. A speech interface gives caller more flexible navigation outputs that are less complex and more rigidly hierarchical touch tone menu options.

VIII. Conclusion

The IVRS will be intelligent for interaction and will suitably provide a good response to the user who will access it. It will be truly a responsible system for human mankind. We can make it better than the present scenario system. It will be digitally accessed and will have a strong database and can be operated easily and at low cost.

REFERENCES

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- [5] www.web.cmc.net.in/products/ivrs/ivrs.asp