

Use of Interactive Voice Response in Interactive Reality Learning & Management

Introduction

Most of the organizations are having more than hundred call centre related applications to support its external and internal communication. This document aims to provide some key inputs to assess the current learning mode and recommend industry best practices to improve effectiveness of the learning curve and enhance end-user experience.

The sensation of a technology lies in its simplicity. Any technology that is easy to implement, easy to learn, available without difficulty, robust, scalable, customisable and omnipresent will evolve very fast. The end user of any technology is extremely tricky to please and wants much more in a single device than ever before. With the evolution of many technologies the end product is becoming very complex. The one user might find a technology very easy to use while the same technology might go over the head of other. Technology should be such that it should always assist the end user, without putting any load on the purse of the product user. Further, technology should be very cost effective, so that it can be universally appealable.

IVR [1] technology is one that is related to the masses in general or can affect the masses on a larger scale. This technology can dramatically improve the efficiency and productivity of the school's administrative personnel while providing a flexible and cost-effective service to students/parents. Giving Education to school children's, Institute scholars, information about progress of student to Parents is one such problem. Through this prepare I am going to present an insight of IVR technology that can be used for interactive learning.

First let us define basic IVR terminology:

Call Centre [2]

Bunch of people (“agents” or “CSRs” = Customer Service Representative’s) gathered together whose job involves:

- Taking Calls
- Making Calls
- Taking and Making Calls

IVR – Interactive Voice Response applications allows customers to call and navigate through various self service options like - to check account related information, pay bills, order service etc. Now the questions arises “Is IVR applications can be used in education system?” The answer to this question is “YES”

Existing Scenario:

- Now a day’s Schools maintain student dairy to communicate forthcoming events, progress of student etc. In today’s world where both mother and father are working and have irregular working hours miss to check their child’s dairy.
- Teachers mark their notes about absenteeism of student in student dairy.
- Parents will have to go to school premises to pay their child school fees at bank counter located in school premises.

- Students wish to inquire about particular course offered by university have to walk to university inquiry counter, ask questions to get the details. This is very difficult for students who live very far or even not in that state.

IVR applications can be built for multiple functionalities which is not limited to

- Homework helpline
- Pay school/Institute fees through credit/debit cards
- School information on forthcoming events - allows parents access to the latest school activities more conveniently
- Exam schedules
- Exam results
- Offer details of courses/subjects offered in various Institutes under particular university
- Taking online exams
- Talk to teachers/lecturers
- Self study/evaluation

IVR System allows clients (here client is parents/students/school administration/school finance department) to make calls over a telephone line through toll free [3] numbers or dedicated direct lines thereby enabling the Service providers/School administration/Institute authorities to provide relevant information over the same telephone line to their clients. The IVR system is a computer program that allows interactive sessions with students/parents without a teacher having to be present or acts as a reporting tool for finance department without any manual/paper work.

IVR interacts with the caller to determine (via collection of roll number/registration id of student or special pin entered by caller or combination of both) who is calling and the reason for the call. The IVR can also pro-

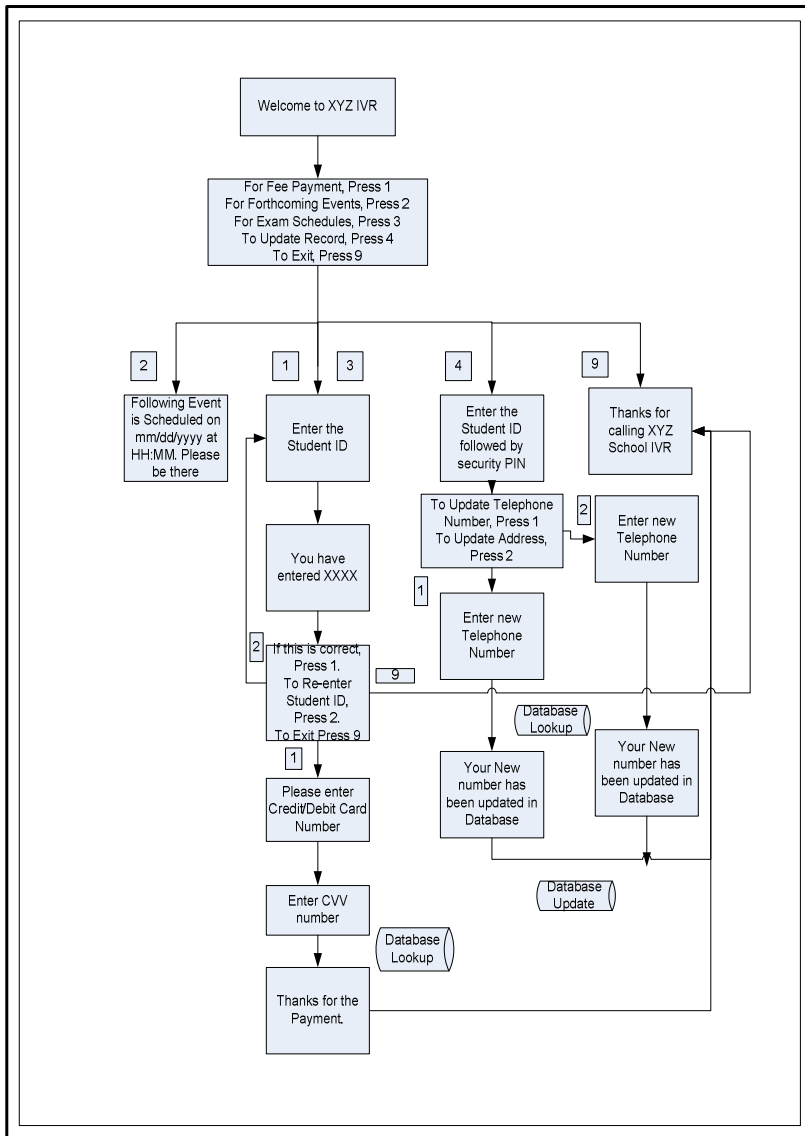
vide automated services to the caller i.e. information on school forthcoming events etc. The IVR acts as a play-and-collect box where the only call routing logic that exists is to provide fall back routing capability. The IVR performs a database lookup based upon the collected unique roll number/registration number and passes the data to database by which caller can listen real time data e.g. exam results, any fine imposed on children's etc.

Every IVR is in the form of call flow diagram. This diagram shows all possible paths that can be traversed through the system by a caller. For example, School Information Broadcast wherein information such as parent notices, extra-curricular activities and others information can be listen in real time environment.

The IVR is connected to:

- Computer Telephony Integration (CTI) [4] Server (for attaching caller entered roll numbers or unique id assigned to each student and data dips, performing transfers to call centre executives in case would like to talk with customer care executive)
- Student profile database (for performing the database lookup)
- Integrated Reporting Server (for storing student data related to reporting for analysis purpose)

Basic School IVR Flow



Main business drivers for undertaking this study:-

- An improved end-user satisfaction – to help customer retention and bring loyalty. Here customer is parents/guardians
- Bring Cost benefits to school/Institutes using IVR applications
- Improved communication effectiveness
- Exploring the use of new technologies to enhance experience

Now a day’s organizations particularly in US/Europe are moving towards School Interactive Voice Response System (IVR). It’s a known fact that it is very critical to incorporate customer’s needs and expectations into the IVR applications but using technology advancement, IVR facilitating better communication between parents and schools; and it allows parents access to the latest school activities more conveniently.

The IVR system can be easily centrally hosted any IVR vendor on which schools need only using the system management interface to customize their needs. No hardware and software maintenance responsibility is forced on schools.

Purpose:

Transmission of information

In addition to recorded messages that can be heard over telephone, the IVR allows information such as parent notices, extra-curricular activities and others from school website to be translated real time into speech using advance text-to-speech [5] technology for listening.

Call forward

Incoming calls can be forwarded to School IVR for screening (validation of student id and pin code if any) and further forward to the appropriate teacher’s direct line or mobile phone without human intervention.

Voice Mail [6]

School IVR can forward voice mail left by callers to the designated email account of the teacher or school administration if the lines are engaged or after school hours.

4. SMS [7] communication

Through the same School IVR interface via Internet browser, school can send SMS messages to parents on matters requiring their attention in a short time. Many school related message templates are also available with some vendors without having school create their own.

5. System Management

A user friendly, Internet browser based management interface allows school to create, link, modify contents to be broadcast, and change the settings for call forwarding and voice mail.

6. Recording Parent's Messages

IVR can record parents' messages which then can be sent to class teacher (based on student ID/roll no. for further action/reporting. Parent's messages may include Parent's Criticisms, Suggestions or feedback about child progress.

7. Generate report for School Finance people

IVR can be use to generate reports for all receiving payments done by students/parents.

8. Update of student Record

IVR plays an important role in updating student information like parents contact number, residential address etc. Parents can dial IVR and update student information anytime without going to school. The IVR will automatically update the school database by writing the updated information passed by caller.

9. Survey

IVR technology can also be used to gather information, as in the case of telephone surveys. The user (parents) are prompted to answer questions by pushing the numbers on a touch-tone telephone, or answering verbally in which case the speech recognition [8] software within the IVR system registers the responses.

Why IVR for Education System:

If Schools don't want to use IVR then they have to have

- Established a staff point of contact for basic parent questions as school is the initial point of contact for parent questions.
- Maintain hard copies of Grade books either centrally or locally for atleast two exam years
- Single point of contact for all
 - School announcements
 - Collecting student fees
 - Give information about course offering etc.

By implementation of adequate IVR, parents can track truant students especially for parents who have irregular working hours. Often, students will either wipe out or alter notes from a school principal or teacher in order to hide the fact that they have been "skipping" school or not doing their home work on time. The work involved in calling parents of the phone to report this information can be insurmountable, especially if there are many legitimate absences due to sickness.

IVR technology can ease the burden on absenteeism reporting for school/Institutes by automatically making outbound calls to parents at either work or at home after hours. A system like this would place telephone calls from a list that was either manually input by the principal's office, or automatically from an exception database that is updated on regular basis. Parents would answer the phone and be prompted to input special code, and then informed that their child was not in school. If the absence is authorized by the parent, they could enter digits which indicate the reason for the absence, which would then be logged for the student's absentee records.

Implementation

- Schools can setup single or multiple toll-free numbers per campus. This depends on school/Institute population.
- Availability: 24 hours a day, 7 days a week.
- Script customization: Telephone script customization is depend upon school/institute need and functionality they would like to incorporate in IVR applications
- Credit card payments: Schools will be assigned a merchant ID for credit card payments. (Instant verification of the credit card is available every time a student, parent, or alumnus makes a payment)
- Convenience fees: School/institution can charge a convenience fee for each IVR transaction.
- Payment confirmation: Email confirmations can be sent to students/parents paying by credit/debit card over phone

Conclusion: -

The IVR service can be an absolute beat for schools/institutes. Now they can conveniently manage their financial assurance over the phone. The ease of processing, reconciling and maintaining makes the IVR a favorite student service tool of the Accounts department. Parents enjoy when they call with IVR and become aware about their children's education/progress just by a call.

References:

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[5] <http://en.wikipedia.org/wiki/Text-to-speech>

[6] http://en.wikipedia.org/wiki/Voice_mail

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