

SMS – THE EFFECTUAL M-GOVERNANCE CHANNEL FOR HIGHER EDUCATION ADMINISTRATION

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ABSTRACT

The mobile communication technologies allow users to communicate with each other via their handheld communication devices at their fingertips, at anytime and anywhere. This paper explores the different ways in which the mobile based service / information can be delivered to the destination and the effectual method of delivery that is short message service which is economic & well suitable for handheld portable device is discussed in this paper. This paper presents the implementation details of sms based administration in higher education institution. Additionally, this paper highlights various challenges pertaining to data delivery aspects together with the strategies of implementing mobile administration through available technology thoroughly in higher education institutions.

Key Words: Administration, Data Delivery, Channels, SMS Format

Introduction:

Educational institutions use notice boards or bulletin boards to convey the important information to the students [1]. As this is not so efficient method to deliver the information or instruction, the mobile phone based short message system can be used as an alternate route to deliver the information. The same is proposed in this paper with various aspects of policies to be followed. The study has revealed the various delivery channels available and their comparative analysis is done to identify the channel that suits the organizational requirement. System implementation techniques and technology solution is also covered in this paper.

Concept of Mobile-Governance:

M-governance [2] in education sector has brought tremendous changes due to its easy accessible, portable and fiscal trait. It is an integrated solution in the education sector that facilitates the processing of information starting from student's enquiry to results. Mobiles can be best utilized in various sectors of higher education to bring a new wave of transformation in information delivery. The few sectors are here as follows: Personnel, Scheduling, Accounting, Academic, Evaluation, Examinations and Transportation etc. The components involved are students, staff, parents and administrators.

M-governance enables the students & administrators for ease in access & reach to the desired resourceful information with "anytime, anywhere" [3] feature. The quality enabled services can be provided using multiple-channels.

Mobile-Governance Delivery:**Channels**

The integrated platforms can be used for the delivery of mobile based services. The selection of the channel is done based on the various aspects, technological, data delivery & security issues. The channels available to route the information / services are as follows [4].

- SMS
- MMS
- USSD
- IVR
- M-APP (WAP)
- WEB

Short Messaging Service (SMS)

SMS is a text messaging service component of mobile communication systems, using standardized communications protocols which allows the exchange of text messages between mobile. The text limit of current SMS is 160 characters.

Multimedia Messaging Service (MMS)

MMS allows the exchange of messages to and from mobile phones, which includes multimedia content such as pictures, graphics, music, images and ringtones. The multimedia messaging service center (MMSC) handles storing, trans-coding and relaying of messages.

Unstructured Supplementary Service Data (USSD)

USSD is a protocol used by GSM cellular telephones to commune with the service provider's computers. USSD messages are up to 182 alphanumeric characters in length and it enables a variety of applications such as callback, mobile-money, menu-based information services, configuring the phone on the network etc.

Interactive Voice Response (IVR) System

IVR allows a computer to interact with humans (CTI – Computer Telephone Integration) through voice and keypad inputs. IVR enables users to interact with a database via a telephone keypad to access needy services and inquiries by following the IVR dialogue.

Mobile Application (M-Apps) / WAP

M-app is the software developed for handheld devices. These applications can be pre-installed on phones during manufacture or downloaded by users from various distribution platforms.

WEB

Mobile compact websites allow the user to access the services / information through browser. M dot websites are designed exclusively for mobile device which provides easy access to the information in required useful form.

Out of all available delivery methods, the simple, economic, widely used SMS oriented delivery mechanism is primarily focused in this paper.

Sms Based Administration:

SMS – The Short Messaging Service is widely available and most efficient method [6] of communication which can be used for educational activities, especially used in institution administration. It supports both on-campus and off-campus administration.

SMS categories based on Communication

- Push SMS (Mobile Terminated)
- Pull SMS (Mobile Originated)

Push SMS

This used by the organizations to send alerts/notifications to the members. The user gets the information about the sender through sender-Id.

Pull SMS

It allows the valid user to send the query SMS in specified pre-defined format to the respective department to get the desired service.

An SMS Gateway

SMS Gateway is a web site that allows one to send messages from a Web browser to registered or specific members. This also allows the developers to interlink the software developed with this gateway so that the SMS can be sent through the automated systems.

Bulk SMS

Bulk SMS is a special feature provided by SMS Gateway to send number of text messages to registered mobiles. It can be done either manually or programmatically.

Classification

TRAI - Telecom Regulatory Authority of India has framed set of regulations for the bulk message transaction. Based on the application areas it can be classified as –

- Promotional Bulk SMS
- Transactional Bulk SMS

Promotional Bulk SMS

- Sender ID not allowed.
- Send marketing sms as offers, product promotions.
- Time limit 9 AM to 9 PM only.
- SMS Will not be delivered on DND numbers.
- No documents required
- Instant Activation

Transactional Bulk SMS

- Send sms with your Institution name (Six characters)
- Pre-approved alert content only
- Send 24x7 SMS.
- SMS Will be delivered on DND numbers
- Documents required.
- 2-3 Business Days

For SMS administration, the Educational institution must use Transactional SMS. For this category, the institution must be registered by the concerned body and each institution should select the appropriate sender-ID which is the unique identification code for the institution service provision system.

Sender-ID Format

As per TRAI regulations the Bulk SMS sender addresses in India should reserve the first two characters to identify the service provider and region from which the message is sent.

Standard Format: XY-ZZZZZZ

Where

X- Service Provider

Y- Region from which the message is sent

ZZZZZZ - Six alphabets unique institution identification code

Example: BX-DOSCLG

Meaning: Bsnl – Karnataka – DOS COLLEGE

Do's & Don'ts of Sender-ID:

- Special Characters like dot(.), comma(,), hyphen (-), underscore(_) etc are not allowed.
- Transactional Sender-IDs should be in uppercase alphabets only.
- Sender-ID should resemble only the organization name.

NDNC: National Do Not Call Registry is an agency which provides Do Not Disturb (DND) facility to the cell users. This DND activation helps the user to filter the incoming calls/ texts so that the user can avoid unwanted promotional texts. The transactional sms used for educational institution reaches all sorts of users.

Blockage Categories:[11]

1. Full Blockage
2. Partial Blockage

- Full blockage SMS:
STOP 0 TO 1909
- Partial blockage SMS:
Select the sector number from below list stop calls from that area.
Example: STOP 3 TO 1909 will stop educational sector.

Category Numbers:

1. Banking/Insurance/Financial /credit cards
2. Real Estate
3. Education
4. Health
5. Consumer goods and automobiles
6. Communication/Broadcasting/Entertainment/IT
7. Tourism

The Transactional SMS system is template based method. Before sending sms, approval of template is mandatory. Based on the purpose and the sms gateway used, the approval duration differs.

General Procedure for Template Approval is by submitting the template request by Login to the gateway account. \

SMS TEMPLATES for Educational Institutes:

- Dear Parents <<variable>> Institute Name
- Dear Students <<variable>> Institute Name
- Dear Staff <<variable>> Institute Name
- Dear Teachers <<variable>> Institute Name

Usage

- Dear Parents, Meeting is Scheduled on 12th at 12pm – ABC College.
- Dear Students, Tomorrow is Holiday. HGK COLLEGE

Tracing the Bulk SMS Sender

The bulk sms sender institution, gateway and region everything can be traced out easily using the web services.

The example web service is www.findandtrace.com This site allows us to trace and fetch the complete details about the sender-Ids.

The incoming sms from specific sender-Id can be activated / deactivated easily by sending an sms to 9229224424.

Example:

1. Activate START XYZXYZ
2. Deactivate STOP XYZXYZ

Implementation:

The SMS can be sent to the destination using two ease methods.

1. Excel file
2. Software App

Excel file:

This is a simplest method out of all available methods. Here the downloaded plug-in app to be installed for MS Excel application. In excel in the tab “Add-Ins” we will find some additional add on features for sms delivery. Here the selection of numbers is done manually then the text is appended to the message along with pre-defined template. The login feature allows the user to have clear information about the pending sms, sms not delivered, sms delivered to DND numbers etc. The report can be saved for the future reference.

Software App:

This is the alternate method which uses the database and program instructions to automate the sms delivery to the users. Here the app selects the users based on various pre defined criteria's and auto delivers the texts with specified format.

Conclusion:

The mobile technologies have the ability to reshape the quality of administration in educational institutions if accepted and used by the administrators. Although the use of mobile based administration is very effective, however the level of adoption among the academic organizations is still low. The mobiles can change the way administration processes are done in educational institutions.

Towards the successful administration of education institutions through wireless communication devices, this paper presents the various methods through which the administration can be implemented easily. The various delivery channels illustrate the readily available various

mechanisms where mobile governance can be applied effectively. And also discussed the challenges and various mechanisms used presently.

Future work includes more study on implementation of mobile administration services, delivery & security policies to meet the new requirements of sms based mobile administration.

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