Business Proposal

(version 1.0)

Group-5

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1. Introduction

The IEEE Computer Society's Software Engineering Body of Knowledge defines "software engineering" as

"*The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software, and the study of these approaches; that is, the application of engineering to software..*

We propose to develop software by the name *'SMS[1] Notification for webmail'*. The main objective of this application would be to send a notification via SMS as soon as a mail is received to the web account of the students.

Over the years the method of sending and receiving messages has changed. Since institutions find it most convenient to inform students about a submission or an event via a mail, it is possible to miss important messages if the web account is not checked regularly. Sending an SMS notification for a mail received by a student would caution the student about an impending event or a deadline.

2. Objective

To notify the student by sending an SMS to his/her mobile whenever he/she has a new mail in his web mail with the name of the sender and the subject of the mail as the content of the SMS text (i.e., the 'From address' and 'Subject' of the mail as the content). The system would be particularly useful to students who check their webmail less often. The students would promptly be notified about new mails in their respective web accounts. This would possibly help reduce the chances of a student missing deadlines low.

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[1] SMS stands for Short Message Service which is a text communication service on mobile communication systems.

3. System Analysis

a. Understanding the problem:

Given the present standard and system of education at many institutions for higher education, information regarding important activities and events needs to be conveyed to students, done quickly, efficiently and conveniently via an e-mail. However, in order to know what is going on in the institute, every student needs to check their web-mail regularly. Students failing to check their webmail regularly happen to miss important deadlines.

Consider some of the issues involved. There will be certain mails which need a quick or sometimes immediate response. These include mails from Professors conveying important information, mails regarding placement and internship opportunities, etc. When a student checks his/her web-mail fortnightly or so to say, less frequently, there is a great chance that the inbox[2] (webmail account) is filled with many unread mails. This might sometimes lead to inadvertent deletion of some important mails without reading them. Also there is a great probability of missing deadlines as mentioned earlier.

Students who check their webmail at very small an interval complain about having wasted their time as they would have not received any new mail (in that interval). Often students do not check their webmail during vacations. This may also cause problems.

In order to avoid the aforesaid problems, we need a system to inform the student whenever he/she receives a new mail in his/her DA-IICT intranet web account. Since, most students carry a mobile phone; it is a good idea to inform him/her about the new mail via an SMS.

b. Feasibility Analysis:

I. Technical Feasibility: Zimbra, an open source e-mail server software, would be used for this project. Since, the code for zimbra is available, so given the current system, modifications can be made to serve the purpose. Other technologies such as PHP, ASP. NET and photoshop would be used for the project. SMS gateway required for the project is available in 30-day

[2] Place on a computer program where data is received from an external source.

trial version as well as at a cost of about INR 800 for 3 months period(10000 SMS). The technical hurdles are thus less, and project is feasible.

II. Operational Feasibility: Given that the team size for the project is 10, work if distributed equally (keeping in mind their domain of expertise) would leave a just sufficient load on each member allowing them to give their best. The various methods the members intend to use for sharing the work done are webmail, google group messages and posts, subversion[3], SMSs and most importantly the Software Engineering labs. Apart from these, a minimum of two group meetings would be conducted every week, keeping performance and progress track records as well. Given a systematic approach, minimum man hours and enthusiasm for the project on part of every group member the project is operationally feasible.

III. Economic Feasibility: There are two approaches for the implementation of the project: institutional model and the commercial model. After much consideration, the team settled on the institutional model. Considering the project requires a SMS Gateway, the SMS gateway would be bought by the team. If the team is able to find a client after the successful completion of the project, the cost of the gateway and miscellaneous expenses will be borne by the client. The cost of the software relies heavily on the cost of gateway as rest of the technologies being used are open source. Another important consideration is the cost in terms of time and labour invested. Proper load distribution and regular work could reduce this cost as well! The project is thus economically feasible. Only foreseen risks could be in terms of the delay in gateway allocation and time spent learning new technologies (which could push the speculated time for delivery farther).

IV. Schedule Feasibility: The approximate time required for the completion of the project would be around 3 months (which includes at least 5 hours of work per week per person). This sum up to about 600 man hours during the course of the semester. Given that piece-meals of our project are to be submitted to the mentor and the submissions would be diligently monitored, we can hope to remain on schedule.

[3] The sub-version is a software versioning and revision control system.

4. Description of proposed system and approach

Zimbra, an open source e-mail server software would be used for the project. Since the requires one to work in the domain of server scripting, we speculate that the knowledge of various web technologies such as PHP and ASP. NET would be required apart from the use of MySQL, a relational database system.

The various stages involved in the making of the project are:

Stage1 : Forking a branch from Zimbra webmail system, followed by a customization of the code for the clone implementation (DA-IICT webmail for 10 people) . The code would be compiled and run on a local server.

Stage2: A module would be added which will send SMS notification to the recipient's mobile number.

Stage3: Developing a proper user interface and adding various functionalities.

Stage4: Checking network congestion. In the institutes like DA-IICT, where many mails are sent on a daily basis, the team would have to check if the system can handle the kind of load. System would have to be modified to suit the need.

Stage5: The project code would be integrated in the present DA-IICT system and run on the DA-IICT server.

Stage6: Extrapolating to add other functionalities as a reminder system for an event (based on a calendar managed by students on their web account) via SMS.

Features: A zimlet named "SMS settings" , would allow one to set options for SMS notifications. As a security measure the student would be required to set and/or change his/her mobile number for their account. System would then send a confirmation and activation code to the submitted mobile number. Filters for SMS notifications can also be set to avoid receiving notifications for messages that are spammed. User can choose to disable the SMS notification during select periods of the day (say, during lectures or at night). Additionally, the system can be designed

to send SMS reminders for Tasks and Calendar events, provided user has enabled them.

5. Conclusion

Consolidating, the objective of the project is to help students attend to important mails on time. This project is being developed by DA-IICT third year BTech students, who have previously had an experience of coding various algorithms and database development. Given that the current webmail system at DA-IICT has no notification functionality, and the benefits the project has to offer, the team expects a positive response from the students and faculty at DA-IICT.