2010

PRESENTED TO:
MR BIG MAN
MANAGER
UNIVERSITY NAME

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1. Introduction

The *Particular University (PA)* is a locally and internationally renowned academic institution. It has produced students of repute who occupy various echelons in society. This year it is celebrating its Silver Jubilee, a mark of its astounding success.

Michael Wakahe is a software development company specializing in mobile applications. We create custom built software to complement your services as an institution.

PA is interested in creating a social and academic networking platform that will allow collaboration between various members within it. This document serves to propose solutions to some of these needs.

2. The Challenges You Face

There are various levels of collaboration that you would like to achieve. The following are ideas that will broaden social interactions among the students.

1. Better access to avenues for wider more academic and more professional social interaction between students (side-side communication).
2. The creation of an interactive and open system by which the student body leadership would practice interactive leadership.
3. The increment in the ability of the student population to present whatever views they may have to the administration and the student body leadership.

4. The introduction of a faster, time-savvy, more personal way to pass on even the most delicate communications to students.

Among the student masses, some of their shared interests and needs were:

1. The need to engage in class (academic related) group discussions.
2. The availing of an avenue through which they can meet at each an every group member's convenience at minimum possible cost (in time or financially).
3. The need to receive and send information relevant to the student faster as well as the need to increase the reliability that the information will reach only the right recipient on time.

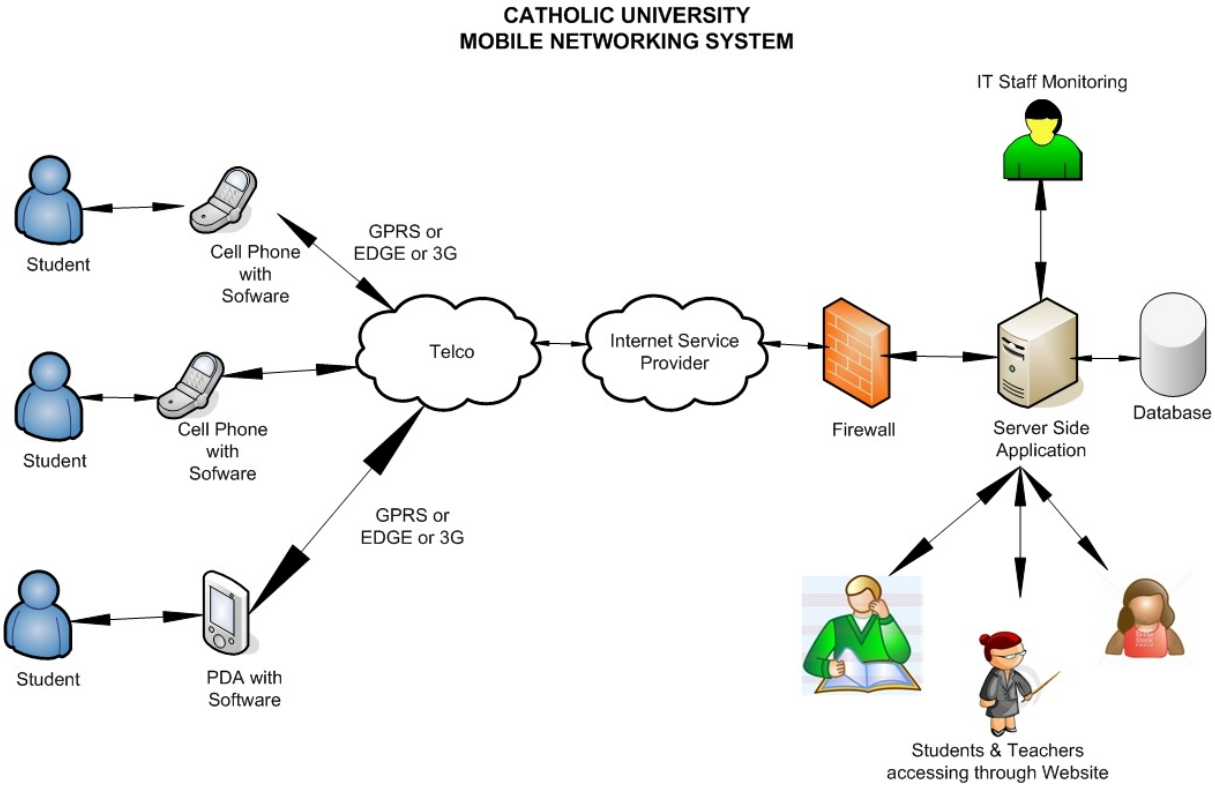
The propositions that emerged from the political science association in consultation with other interested individuals were:

1. The creation of a social networking site to be primarily accessed through mobile phone browsing.
2. The creation of avenues through which the association could earn an income from its own activities i.e. event organization, sales of association related materials (tapes, audio CDs and DVDs of association discussions on raised subjects) and the enhancement of club awareness by Internet uploads exclusive PSA talks, discussions, speeches and events.
3. The imposition of advertisement charges on parties, corporations or individuals that decide to post adverts on the website.

3. The Solutions We Recommend

We are able to build the website and mobile collaboration platform in various phases. A prototype can first be developed and used to gauge student and staff uptake. We can then continue to add and modify features according to the request list. This would be the best approach of developing the system as it would grow in step with needs and would allow for modifications along the way.

Below is a summary topology of the interaction between elements in the system.



The system will be achieved by creating software that is commercially hosted. It will have an application server and RDBMS and will be accessible via a web browser or mobile phone from any location.

A mobile phone application will be created to enable access through a handset. It will be created using *Java*™, the most ubiquitous and widespread mobile technology. Most phones that are WAP / Internet capable are also *Java* capable. Later on, we can include other platforms such as *BlackBerry*™, *IPhone*™ and *Windows*™ *CE*.

Students and staff will be able to create accounts on the system. Each user will therefore have a profile identified with him or her. The accounts will be password protected. A user will then be able to have a one-to-one communication with another user or may possibly broadcast messages to multiple users. The system will also produce frequent reports such as statistics on user adoption.

There will be safety of data in flight between the server and mobile phones. This is because the data will be encrypted. This guarantees data integrity, confidentiality and authentication and thwarts security attacks such as replay, spoofing and man-in-the-middle. This is particularly important for sensitive data, for student grades.

The server side application will comprise of an Application Server (*Tomcat*™ *6.x*) and a fully fledged RDBMS (*PostgreSQL*™ *8.1*), the most advanced open source database server. The Application Server will run the enterprise version of *Java*™ named *J2EE*™. It can be hosted on one of our servers, an *HP*™ *Proliant DL380 G5*, the world's best selling server by number of units sold. The operating system on the server is *Linux*™ specifically *Debian*™ *5*.

Beyond the technical workings of the software and hardware, other modules should be in place for the entire system to work effectively. Examples of these other sub-systems include customer care, documentation, training and marketing.

We consider our servers as being high availability implying that they have minimal downtime. They are hosted with *UUNET*, Kenya's number 1 corporate ISP. The *Linux* environment ensures hassle free administration as there are no viruses and trojans to be worried about. Linux, which is a flavour of *Unix*, carries with it many strengths traditionally associated with *Unix. Linux* makes efficient use of hardware and has no license fees.

Michael Wakahe follows proper software methodologies. This ensures that we create software that needs minimal maintenance. We capture the User Specification Requirements as accurately as possible then iteratively build the software allowing for frequent reviews by the client. We also carry out a lot of testing including Performance Testing, User Acceptance Testing and Security Auditing.

We also incorporate other documents and processes including System Design Documents, Test Case Documents, User Manuals, Training, Backup, Disaster Recovery and Incident Reporting. Some of these are mentioned at the end of this document.

Michael Wakahe is presently approved by the telecommunications regulatory body (CCK) as an Application Service Provider.

To top it up, *PA* will have a cutting edge image. Good word of the mobile application would be spread by students and staff. Investors and sponsors would be impressed and it may even allow for you to expand into new territories in the educational sector.

4. Plan of Action

We request that you consider taking up our offer. We are then able to meet and come up with a timeline of deliverables. We will also begin the acquisition of any hardware or software should it be necessary. We will be available to start 2 working days after receiving notice and the appropriate down payment.

We will enter into a Service Level Agreement (SLA) once the work is complete and is in the maintenance phase. Part of the SLA will state the scope of the maintenance work that *Michael Wakahe* will carry out.

5. Additional Information

The following are additional documents that can be produced upon request. Some will be complete whereas others would be draft before a solid roadmap has been decided. Many will definitely be produced before the end of the project.

1. A detailed *Project Plan* including scope of work, deliverables and timelines, feasibility studies, staff and budget allocations, Gantt charts, flow charts etc.
2. A document expounding on technical details of the system e.g. general security concepts like cryptography and server side functionalities such as cron jobs, servlets and RAID.
3. *Systems Requirements Specification (SRS)*. This document is used in the elicitation process and highlights the functional, non-functional and pseudo requirements of the system.

4. *System Design Document (SDD).* This is a detailed working of the actual system, designed for technical personnel. It also includes diagrams of various components.
5. *System Test Case Document (STC):* This document highlights the steps taken to verify that the functional and non-functional requirements have been met by the system. It is used in the Quality Assurance (QA) phase of software design.
6. *Disaster Recovery Framework* and *Incident Response Policy*. Disaster Recovery is the plans, procedures and controls, determined to recover from disaster with minimal disruption to the systems and customers. An Incident Response Policy provides a clear understanding of what decisive actions will be taken when a security breach or disaster occurs. It also details who is responsible for investigating and dealing with such problems.
7. *Information Resources.* All data, information as well as the hardware, software, people and processes involved with the storage, processing and output of such information. This includes networks, servers. PC's, storage media, printers, photocopiers, fax machines, supporting equipment, fallback equipment and backup media.
8. Other prospective applications. This would enlighten you on how mobile and wireless technology can be applied to other areas in the educational sector. For example how we can automate the invigilation of students sitting for an examination.
9. Market research. This can include mobile technology statistics and educational IT adoption in other parts of the world.
10. Contractual documents. This include Service Level Agreements (SLA), clauses or specifications that govern contracts including terms and conditions, subcontracting requirements, payment schedules, ownership of the work product, certifications and representations, and so on.

11. Documentation - training manuals, procedures of installation, maintenance and auditing; standards to be adhered to for correct functioning of system.
12. Curriculum Vitae of key personnel who will implement the solution.
13. The company profile.
14. Any other pertinent documents.

6. Appendices

A. Glossary

3G ……	Third generation wireless
CCK ……	Communications Commission of Kenya
EDGE …….....	Enhanced Data rates for GSM Evolution
GPRS …….....	General Packet Radio Service
J2EE …….....	Java 2 Enterprise Edition
PDA ……	Personal Digital Assistant
RAID …….....	Redundant Array of Inexpensive Disks
RDBMS ……..	Relational Database Management System
SLA …….	Service Level Agreement
WAP ……...	Wireless Application Protocol

B. References

Java® Programming Language ……..	http://www.java.sun.com
Java® Enterprise Edition …….	http://java.sun.com/javaee
Apache® Tomcat Application Server ……	http://tomcat.apache.org
Debian® Linux ……..	http://www.debian.org
PostgreSQL® Database ……	http://www.postgresql.org

