Project Tender

Project: Integrated Gynaecology Patient Information Management System.

Client: Prof. L.C. Snyman

Team: MPHETamines

Mkhabela Phethile

Ghoord Taariq

Rosslee Estian

Mohlala Martha

Masilela Siboniso

Setati Harrison Maphuti

Department of Computer Science, University of Pretoria

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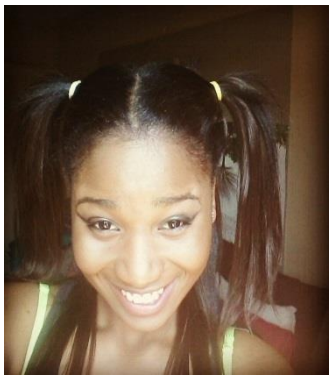
The Team

1.

- MKhabela Phethile



- Poetry, Clothing, Coding, Exercising and Reading
- NodeJs, Databases, C#, Java, Javascript, C++,Web languages, Mobile development, Networks, HTML, XML, CSS, JSON
- Cos Departmant Mini Project which I was able to work well with my team mates and got my component working and Integrate able.
- Fast learner, good research skills, can work well with other and easily adaptable to situations and new information

2.

- Taariq Ghoord

- Coding, Gaming, Infrastructure
- C++, Java, Design Patterns, Javascript, NodeJS, Networks, HTML, XML, CSS
- Usage of Javablock , Mini Project experience
- Fast thinker, Problem solving and Code structure

3.

- Rosslee Ronald Estian

- AI, Security, Computer Networks
- C++, C, Java, Python,Databases(Microsoft Access, MySQL, MongoDB),Web Design(HTML5, CSS, JavaScript, PHP, NodeJS)
- Fluent in both English and Afrikaans, as well as some knowledge of French and Arabic
- What makes me want to do the project boils down to two interests of mine. Firstly, syntactic signatures or individual coding styles and secondly, pattern analysis. Participating in this project will give me an opportunity to research these topics and apply that research in a practical manner.

4.

- Setati Harrison Maphuti

- Gaming, Web Development, Photoshop
- C++, Java, NodeJS, Javascript, Web Languages, Networks, HTML, XML, CSS, JSON, Design Patterns
- 301 Mini Project
- Creative Design ability

5.

- Martha Mohlala

- Web Development, Computer Networks
- Web Development(HTML,CSS, Javacript, JQuery, Ajax, Php), C++, Java, C#, Mobile development, Databases, .NET, JAVA-EE, NodeJS
- 301 Mini Project
- I am an open minded person whose career focus is on software and web development and computer networks. I like to take on new challenges and see to it that I create easy and cost effective solutions. I enhance my problem-solving skill by learning fast and as much as possible. I am hoping one day I will put what I have learned to help in developing the world wide solutions.

6.

- Sboniso Masilela

- Security, web Development
- Web Development(HTML,CSS, Javacript, JQuery, Ajax, Php), C++, Java, XML, XSLT, XML Path, DB4Objects, NoSQL, SQL
- Developing an agricultural application that farmers use to improve the growth of their crops, it gives them personalized tips and agile methods based on what they have planted (not yet fully completed).

Project Execution

- Development methodology: Traditional (Waterfall) software development methodology. We intend on using Traditional approach because it entails achieving the succession in implementation process and provides the benefits of milestone-based planning and team building and it involves the following stages:
  - Initiation (requirements specification).
  - Planning and design.
  - Execution (construction and coding)
  - Control and integration.
  - Validation (testing and debugging).
  - Closure (installation and maintenance).

- Contact with client: The client is available as needed to the development team; the client is highly flexible to negotiate time for meetings. The client will meet with us regularly weekly or bi-weekly if necessary. Providing feed back to our client is essential to the type of development methodology we have chosen, and this we feel ensures fully functional software which is in line with the clients liking at the end of the development of the software.

- Potential technologies:
  - Visual Basic .NET or C would be our choice as there are enough objects and classes built-in to support create medium size database driven applications without writing much code :), objects in the OleDb namespace can be used to connect and insert/retrieve/update data in the database.

- Solving technical challenges
  - Problem statement

  Kalafong Provincial Tertiary Hospital is yet not computerized, meaning Clinical records of patients are kept in a paper based platform (which is clinical _les), and this way of doing things it makes things extremely difficult, for instance to get access to accurate data with regards to the patients information, even though the data is accurate but going through the process of gaining access to the information can be very time consuming and it affect research because information cannot be accessed anytime, anywhere and by any means of technology we have in hand.
- Overview of current system
  - Clinical records of patients are recorded in an A4 paper by the people on duty.
  - The information and its accuracy at times may be hard to verify and referenced to the
  - Person who recorded it because the identity of the person is not automatically stipulated to that paper.
  - It is easy to lose the clinical records of the patients all at once in case of fire, natural disasters and human error factors.
- Proposed Solution
  - First, all the users of the system they will be registered and assigned different access level based on their position (e.g. Medical interns, senior medical students, Research assistants etc.).
  - Allow users to record information using different online web based platforms (smartphones, tablets, laptops and desktop computers) and automatically referenced the username of the person entered the record.

- Restrict users to see the information except those authorized to do so.
- Integrate this system will the already existing department Microsoft Access database.
- Link this system with other online systems (e.g. National Health Laboratory System) that may need its services and vice versa.
- Allow users to search patients records using certain parameters (In a usable and faster
- Interface).

- This will make the application interacting with our data system able to adhere to the following usability goals:
  - Effectiveness - make the product good at what it is supposed to do.
  - Efficiency - help to increase productivity.
  - Utility - provide the functionality that the users want/need.
  - Learnability - Make it easy for user to learn and use the product.
  - Intuitive - Make it easy to use and understand the application.
- Implementation plan

This aims to outline the System Development Life-Cycle (SDLC) of the proposed project solution.

- Overview of Implementation Phase

Before implementation takes place, the development team will provide you (client)
With the following documents:

- Functional Requirements document
  - This document will address an in depth description of the Integrated Gynaecology Patient Information System, its primary and equivalent purpose of the system, set apart the functional and non-functional requirements of the system and its features, and the front end (which is the interface), and all the pre and post conditions that must be met when the system is working properly.
- Architectural Design document
  - This document will address an in depth description of the Integrated Gynaecology Patient Information System, based on what architecture patterns that will be used and why?, that will be based on features each pattern provide which equivalent to meet the requirements of the system and its subsystem, and it will give an in depth understanding of the non-functional requirements

- Testing Document
  - This document will simply give a full report whether and the pre and post conditions of the system are met and show whether the system works the way it is expected to.
- some of the usability goals include the following:
  - Effectiveness - is the product good at what it is supposed to do?
  - Efficiency - does the product help to increase productivity?
  - Utility - does the product provide the functionality that the users want/need?
  - Learnability - is it easy to learn to use the product?
  - Intuitive - is it easy to use and understand? etc.

Included in all the above stipulated documentation will be:
1. Unified Modelling Language (UML) diagrams to further illustrate the ows, operations, sequences etc. that form part of the system's operation.
2. Database Entity Relationship (ER) diagrams to illustrate the system entities that will form part of the system's persistent data.

- Users and installation manual

This document will provide a full description of how the system works to ensure
  - effective usability of the system