PROJECT PROPOSAL

D. S. G. Jayarathne
140710N

1. Title of the project : Dr. Pet

2. Overview of the Project

   The proposed project is to implement a Patient Management System for the "Dr. Pet" Animal Clinic, Kadawatha, to automate their current manually driven management system. This should allow the users to maintain three main subsystems; patient details with their medical history, doctor details, and customer details.

   This project will be implemented as a desktop based application which uses a cloud based database management system.

   The input of the patient management system includes the details of the doctors, the basic details of a pet and the pet owner, diagnosis of each pet, medical treatments of a pet, medicine prescribed by the doctor, reminder for continuation of a specific treatment, and the advices given for the pet owner.

   The system should provide details of a pet and its owner, medical history, follow-ups for each pet, the names of the pets who have birthdays on a day, and generate several reports for making decisions as outputs. Further, the system should be able to send messages to clients reminding special treatments on their pets on specific days, and general messages for wishing on birthdays.

3. Objectives of the Project

   - Design and implement a complete, comprehensive integrated high volume front end Patient Management System.
   - Maintain security in a high level by providing two user levels (admin and other doctors).
   - Provide methods to keep the track records of the patients, pet owners, doctors, and medical records of pets.
   - Provide methods to send messages to clients reminding special treatments prearranged for pets on a given date, to wish on birthdays of pets, and other special messages to broadcast to all the clients.
   - Automate the current manual patient management system.
   - Automate the calculation processes.
   - Provide separate interfaces for different functionalities.
   - Provide a separate interface that allows the doctors to view all the follow-ups due on a date which can connect to the relevant medical record of that particular pet.
   - Provide the capability of alerting the doctor of follow ups on pets' medical treatments and birthdays due.
   - Provide the facility to generate reports and graphs to make decisions.
   - Provide the ability to reduce data redundancy, increase the speed of searching for specific records, store data in a reliable manner, and keep all the data in one place by using a database management system.

- Implement a crash recovery process which guarantees that each transaction is correctly executed and completely aborted.
- Provide the facility to backup data occasionally unlike a manual system.
- Provide user-friendly interfaces to ease the work of the users of the system.
- Increase the client base by providing them a better, faster and more reliable service.

4. The Need for the Project

"Dr. Pet" is a medium size animal clinic located in Kadawatha, which has the intention to develop into a large size clinical chain having many branches around the country. At present, the chief doctor has four other doctors as assistants, and the number of patients they have to examine is being increasing day by day. However, their current patient management system is being processed using a manual file management system and the calculations are also processed manually. Hence, it has become a difficult task for the doctors to manage such a large amount of details and the calculations manually quickly and reliably. Further, Dr. Nuwan Wickramasinghe, the chief doctor, lacks the facility to check on the files when he is away from the clinic, since their management system is being managed manually using files and books.

To overcome the difficulties mentioned above, "Dr. Pet" requires an automated desktop based application to act as their patient management system, which has a cloud based database management system. Hence, their calculations can be accurate and managing data of patients and doctors would become easier and reliable. Automating

5. Scope of the Project

- The proposed system contains two main user levels: administrator and doctors. Hence, separate login interfaces and two different roles are to be provided.
- The system has to have the ability to withstand the environment failures and if so the system should recover itself within a short time using a backup system.
- The patient management system should contain the details of pets, pet owners, doctors, medical records, follow-ups on pets' medical treatments, and the ability to send messages to clients.
- A few sections of this system should only be handled by the administrator. (i.e. updating client/pet details, adding/updating doctor details)
- A database system has to be used to increase the number of benefits such as crash recovery and data integrity.
- The database management system has to be cloud based to allow the admin to access data from anywhere.

6. Deliverables

- A standalone application for "Dr. Pet" Animal Clinic.
- GUIs created in a user friendly manner.
- Separate interfaces for loggings and different user levels.

7. Overview of Existing Systems and Technology

Since animal clinics are not very much popular in Sri Lanka, many clinics do not have an automated management system. However, the proposed system contains some similarities with the currently existing standalone applications in functions used in Sri Lanka; such as,

- Keeping track records of pets and owners
- Medical history

Technology that will be used for implementing the proposed system:

- Frontend Design – JavaFX
- Backend Design – Java
- Database – MySQL

8. References

[1] Oracle Corporation, "Java platform, standard edition (java SE) 8," in *JavaFX*, 2016. [Online]. Available: http://docs.oracle.com/javase/8/javase-clienttechnologies.htm. Accessed: Feb. 3, 2017.

[2] Oracle Corporation, "MySQL: MySQL documentation," in *MySQL Documentation*. [Online]. Available: https://dev.mysql.com/doc/. Accessed: Feb. 3, 2017.

[3] M. A. Hospital and Mars, "Animal Hospital Management System," 1993. [Online]. Available: http://www.bwci.com/. Accessed: Feb. 3, 2017.