BDIC SE Group15.inc
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Project Proposal: Healing Pawl Veterinary Online

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I. Summary

Our team are engaged by Healing Pawl Hospital to establish a digital system to help them solve the remote pet care challenge. Our team include 5 personnel and we have a idea to solve their problem with program service. To achieve it, we really need some funding and support.

In some survey, veterinarians only see pet parents for 16 minutes a year and with 82% of pet owners in the UK going to google before visiting a vet, veterinarians are increasingly being judged on how they connect with their clients digitially. But on the other side, animal health companies have made a dozen of acquisitions via the technologies, including monitoring and tracking devices. These technologies are allowing vets make better decision and provide unique services to the pet parents.

The project are proposed by the pet industry Healing Pawl to help them immigrate to the digital veterinary service. Current vet have to travel a long distance and treat pet. Also, the appoinyments is based on the paper system, low efficient. Our team, having years of experience on the hybrid (web+mobile) application , will help the industry achieve a digital solution to overcome the challenge.

We are going to design an web application with Restful architecture style of the veterinary system. The application will be packed and deploy on the cloud servers. We believe this solution will enhance the user experience in a large extent.

The expected impact is to save 20% of time cost, gain better user experience and help the doctor co-work better with each other. Also, our solution will try to streamline the original work flow and make it easy to access by both doctor and User.

As for cost, we plan to finish the project by June within 3 months. In this period, the amount of the budget is estimated to at least (120,000 + 2,000 per month) in an normal process, including the hardware requirement, salary and network consumption.

The last but not least, we are looking for funding and grant suggestions, volunteers to assist with grant writing, and suggestions for both Information Technology and Veterinary professionals who may be interested in offering guidance and ideas.

II. Introduction

Our group was organized during the third semester at Beijing University of Technology. All the members of our group have experience in website

development. We have been hired by The Healing Paws Veterinary Hospital to develop a computerized system.

Our project is cloud-based and divided into two parts: website development and mobile development.

- Customers can make appointments for their pets throw website or android APP.
- One customer can make appointments for more than one pet at a time. Also, customers can check the status of their pets through web or cellphone application.
- Employees of Healing Paws can organize, prioritize, and keep track of appointments with a remote device. Employees and Customers have different permissions. Both Chinese and English are available on web and cellphone application.
- For Employees of Healing Paws in Dublin, we will provide an electronic document to introduce the operations of this computerized system

Needs/Problems

With the increase of pet owner, hundreds of processes to treat pet are delivered each day. More treatment data often means less time to interpret and react appropriately, leading to errors and misdiagnoses. That is a general challenge presents that pets clinic is facing. To overcome it, it's worthy for pet clinic industry to embrace the shift to digitalization.

While this shift has been difficult due to continued use of paper-based system and low levels of digital records, it become essential if an veterinary industry would like to win in the competition among the veterinary field. The benefits of digitization are becoming quite clear—and technology that can help hospitals make this translation at a scale to unlock even greater value for both patients and the veterinary system.

Current pet owner tends to operate in an increasingly digital age with techn-ological innovations designed to connect, inspire and assist them. So why not go digital at your veterinary clinic? When you rely on the digital solution and learn to streamline veterinary operations, you'll become better equipped to care for animal--- and save a lot of time doing it. **The digitalization will optimize your practice in a list of several ways**

1. **Save valuable time**
   When it comes to make accurate recommendation, how much time you will save compared with going through a paper-based workflow. The digital system will place your order and pack general workflow into process that automates, and it will be easy and risk-free.
2. **Improve the client experience**
   An optimized workflow is a beautiful thing, especially when all it takes is one forgotten appointment to knock your entire entire schedule off kilter. When pet owner are reminded of appointments by email, text message and old school paper methods, they are less likely to forget and your calendar can stay intact.
3. **Saving money**
   You may consider how the system will be achieved at what cost. People tend to think that all technological advancements come with a hefty price tag on developing the system.

   However, compared to traditional models, the rise of digital media has actually bought down client acquisition costs. Consider the amount of time and capital saved by the impact of digitization and you'll find the benefits far outweigh the initial investment.
4. **Make your employee content with works**
   As for veterinarians, they may work in a more satisfying work context, saving time without decrease performance. If your team is ready for more effectively diagnose, treat, and heal beloved pet in a one go. Unleash the lighting fast speed of digitalization at your practice.

Our team understand the complex challenges faced by normal industry and have years of experience establishing an advanced information management application. We are able to gather those information and visualized them in a

sensible assembled machine. Also, by empowered by the mobile devices, we can simplify those operations a piece of cake for your care team and your customers.

III. Goals/Objectives

Our team aims to develop a software that has the basic functions as the customer mentioned, but not only these functions.

Goal 1: We separate the software into several different sections: Login/out, Profile, Reservation for the pets, Chatroom and the information/stage of the pets.
Goal 2: We think VUE is a good technology for our website to adopt both PC and mobile phone. So we choose it for our front end now. And we use Flask for our back end because we are more familiar with this compared with other technologies.
Goal 3: By now, we think our program can make online reservation for customer, the reservation has two types: first-aid and normal. And we can serve for three cities: Beijing, Shanghai, Chengdu.
Goal 4: If the pet has been treated by the hospital, customer can see the information of their pets: the date for the operation or if the operation has finished.
Goal 5: Except these functions for customer, we also develop some functions for employees. Employee can deal with the tables the customers hand in and choose which pet needed to be treated first according to the reservation type.
Goal 6: If the customer has questions, the website will provide a chatroom for user to communicate with the employee.

As for the objectives of our program, we choose two aspects: scalability, fault tolerance and good UI.
Objective 1: We think scalability is the key of a software because with the development of the software, we need to add more functions to meet the needs of customers. If the scalability is terrible, the development will get bogged down. So we establish the architecture carefully and logically. We separate the program into front end and back end, the functions also be separated into different section.
Objective 2: This also means the fault tolerance of our program is good, you only need to deal with the problem of one section, not the whole.

Objective 3: Good UI is also an important objective. We use VUE CSS and JS to achieve this. These three languages can make our UI simple and colorful.

IV. Procedures/Scope of Work

REQUIREMENT RESEARCH
With the increasing numbers of pets owner ,it is necessary to monitor,manage,and control numerous data of pets and treatment in pet hospital.The use of electronic information systems to manage data has become a trend in period of big data.Our project provide a kind of reliable,safety,and stable platform for there pet hospitals.

Our website needs a stable server to contain thousands of user sign in at same time.That server must satisfy reliability ,availability,scalability,usability and manageability.

DESIGN SYSTEM MODEL
The statistic and analysis model offer a support to track and deal with data in efficient methods.That could implement the basic and significant booking and order function.

BACKEND AND DATABASE DESIGN
The integrated database in back-end stored a mass of information for each client,staff and deal in a safety and reliable way.It can organize data more appropriately, maintain data more conveniently, control data more closely and use data more effectively.

DESIGN OF INTERACTIVE USER INTERFACE
The beautiful and simple interface satisfy most of user needs which provide a convenient communicate channel between client and staff.

THE DEPLOYMENT AND FURTHER MAINTIANING FOR THE PROJECT
The integrated members in our team, has positive working attitude and plenty of technical support.Close cooperation makes project developed efficiently.

A stable server, efficient statistic and analysis models, the safety and integrated database,the beautiful and concise interface and the integrated members of team provide plenty of support to achieve our goals and satisfy user requirements.

V. Timetable

Provide detailed information on the expected timetable for the project. Break the project into phases, and provide a schedule for each phase.

	Description of Work	**Start and End Dates**
Phase One	Collect problems with pet hospital reservation; filter and design functionality and project architecture based on the collected issues	2020/02/24 - 2020/03/09
Phase Two	Start coding the project; periodic phase testing and acceptance against project requirements; Communicate with stakeholders to confirm and modify project requirements	2020/03/10 - 2020/05/13
Phase Three	Start coding the project; periodic phase testing and acceptance against project requirements; Communicate with stakeholders to confirm and modify project requirements	2020/05/14 - 2020/05/23

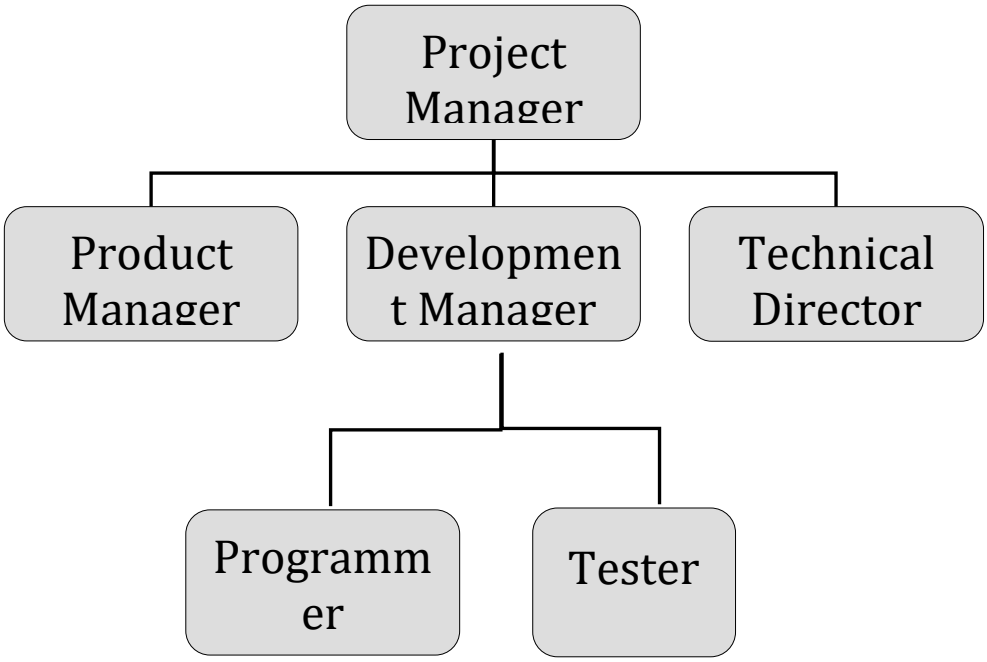
VI. Budget

State the proposed costs and budget of the project. Also include information on how you intend to manage the budget.

	Description of Work	**Anticipated Costs**
Phase One	Purchase and setup of network server	¥ 1,000 per month
Phase Two	Purchase and setup of network server	¥ 40,000 per month (3 month)
Phase Three	Maintenance costs required for project development and ongoing work after completion	¥ 1,000 per month
	Total	¥ 120,000 + 2,000 per month

VII. Key Personnel

List the key personnel who will be responsible for completion of the project, as well as other personnel involved in the project.



VIII. Evaluation

Evaluation for the required functions of the program

1. Implement the functions proposed by stakeholders
2. integrity of the functions

Evaluation for the performance of the program

3. Scalability: with few changes (even just hardware additions), the system can achieve linear growth in processing power, high throughput and low latency performance, e.g. the capacity of the server required for continued user growth
4. Reliability: evaluate the actual performance and capacity of the system, to reduce the risk of the system
    a) security: protect users' personal, pet and order information

Evaluation for the program usage:

1. ser interface design

2. user experience: complexity of operation, speed of information interaction, solving problems of users

IX. Endorsements

X. Next Steps

XI. Appendix