

**`VetPet**  
**Software Design**  
**CSCI-P465/565 (Software Engineering I)**

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## **1. Introduction**

This section introduces the design approach to the software system.

### **1.1 System Description**

VetPet intends to streamline the treatment of animals by local veterinary doctors through a centralized web portal which acts as a medium of communication between the two parties. In addition, the system will support insurance plans for the animals by connecting the pet owners with multiple insurance plan providers. The system will be unique in a way that very few existing systems currently exists in the country which centrally govern the treatment of animals.

### **1.2 Design Evolution**

This section is intended to document the rationale behind the selected design solution.

#### **1.2.1 Design Issues**

Application only needs a Web browser to be accessed.

#### **1.2.2 Candidate Design Solutions**

We have decided to build most of the components in the system using JSP as the backend. We are looking to deploy the application on the Amazon Web Services server.

#### **1.2.3 Design Solution Rationale**

Java Server Pages (**JSP**) is a server-side programming technology that enables the creation of dynamic, platform-independent method for building Web-based applications. **JSP** have access to the entire family of Java APIs, including the JDBC API to access enterprise databases.

**Amazon Web Services** offers reliable, scalable, and inexpensive cloud computing services. There are sources available in the [aws.amazon.com](https://aws.amazon.com) to assist in hosting.

## **1.3 Design Approach**

### **1.3.1 Methods**

Until now we have designed the Login and User registration feature for which the approach used is that along with the normal registration and login process, we will encrypt the user's password and store it in the DB. Also, there will be a Duo authentication for all the users every time they login. Forgot password feature will consist of two options to reset the password i.e. either using Security Question or Duo authentication.

For testing, we would be using unit and regression testing. Unit tests are for stability and code predictability, while regression testing is for evaluating of how users interact with the code.

### **1.3.2 Standards**

We are adhering to the JSP standards and practices as mentioned in the official documentation.

Apart from these, we are using JavaScript and HTML5. Also, CSS3 will be used to provide better look and feel of the GUI

### **1.3.3 Tools**

- Editors – Eclipse, Sublime Text 2
- Webserver- Tomcat
- Database - MySQL
- Hosting- Amazon Web Services

## **2. System Architecture**

### **2.1 System Design**

At a higher level, our system will have classes/functions for each component implementing a specific feature. At a lower level, each function will have its own Logic and Unit Tests.

We have used a basic template for our HTML pages having the same header and footer. This template will be inherited for all the HTML pages that we develop.

### **2.2 External Interfaces**

## **MENTION THE API's WE ARE USING FOR DUAL AUTHENTICATION**

## **3. Component Design**

### **Component Name**

Search Insurance provider component

## **Component Description**

The Search Insurance provider component allows the users/patients to look out for various insurance providers with various quotes available and choose the best among them. Also, there is a recommender system based on the reviews and statistics available.

## **Responsible Development Team Member**

All the team members had divided this major component into smaller chunks and then integrated it together.

## **Component Objects**

User Component: A User who will be connect to the URL of the website and then will either register themselves if they will be new user or else they will log in to the site if they are existing users.

Change theme component: This component consists of:

Choose theme component - Select the desired theme from the options such as 'Dark' or 'Default'.

Search Insurance provider component: This component consists of:

Insurance provider component – Select the specific insurance provider from the list of providers.

Insurance package component – Select the type of insurance package from the selected insurance provider based on the needs of the patient.

Recommender component – Return a list of insurance packages depending upon the statistics such as the amount charged by the provider, amount covered under the package, etc.

Database Component: This component will store all the User's data and credentials and will be used to authenticate the users based on the Database calls made to the server.

## **Component Interfaces (internal and external)**

The component will make calls to the Database to validate the credentials of users trying to access the system. The component will check with the database to validate the credentials.

## **Component Error Handling**

If a user is trying to login with invalid credentials such as Invalid username or Invalid password, they are handled in the component.

## Revision History

Revision	Date	Change Description
Initial Version	9/30/2018	
Version 2	10/14/2018	Changes for the SPRINT2.
Version 3	10/28/2018	Changes for the SPRINT3.