Anatomy Learning With Chat-Bot.

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***Abstract*— Anatomy with chat-bot is a web application that will help people who have anatomy background. Many times person wants to learn new words(i.e improve their vocabulary), but they are not sure about how are they going to do it. In many cases person doesn't know from where to start or what to search (i.e asks chat-bot) . This system will offer suggestions to user as well as user can also look for particular words. Learning with image is easier to remember, our system follows the same theory, so whenever user get a recommendation or searches for the word, he/she will get an image as a response form the chat-bot. To test the learning user can also appear for quiz for the things that user has learned.**

I. OBJECTIVE

Anatomy with chat-bot is a web application that will help people who have anatomy background. It has significant anatomy terms and description with images of the anatomy world. One of the popular uses of this web application is that, user who wants to learn anatomy can learn efficiently using this platform. System will daily suggest anatomy words to a user, at least 5 or capacity set by users. This study focuses on the development of chat-bot which helps people to understand anatomy terms. Our chat bot is enough intelligent to answer the queries of users, in addition to it, user can give quiz of the words learned throughout the week which ensure that purpose of this platform is achieved that it makes learning easy and effective.

II. PROGRESS

A. Defining the project definition

In the first meeting we tried to define the project definition, our main focus was on selecting the definition that we face in day to day life. after deciding the problem statement we looked for already existing product.

B. Artifacts Inception

The term artifact in connection with software development is largely associated with specific development methods or processes.We created artifacts like Vision and Business case, Supplementary specification, Functional requirements etc.[3]

C. GRASP patterns

After creating artifacts of inception we had the clear idea about the requirements of the project, so we applied GRASP design patterns for our product development.

D. Database

In the next meeting we looked for the database for our chat-bot module, and also created database of words, with description and image link.

E. Chat-bot

We also started working on building the chat-bot that is the key module in our project. We started working on Chat-bot using Spring framework[4] and discussed which library we should use to create bot, AIML[5] is one library available for building artificially intelligent chat-bot.[6][7]

III. DELIVERABLES

The system is very simple to use and easily understandable, though there is a help section in the website for user to solve their confusions. Help section contains basic FAQs, and some terms, and we also provided contact for users. The system is reliable as it allows only authorised user to login and use the system. Moreover, time by time we are taking backup of each and everything like user details, word study details to face the situation of failure. So, it is easy to recover from the failure. Our systems' goal is to respond quickly to the user's action, in order to do that we specified some time constraints while building the system. for example, System should login user in 1.5 seconds if user enters valid username and password. So, throughput of our system is high, and our system is always available to user except the situation if system undergoes the maintenance and it is hardly 1 or 2 hours per month. Our system is supported and configured on all platforms, such as Android, Windows, Linux, whether it is mobile phone, laptop or tablets. user can learn anatomy words, or he or she can give quiz test. The users can also check the word history which he or she learnt till now.

IV. Issue encounter during mitigation plans

While working on our project, we encountered some glitches regarding database creation.Firstly, we had server configuration issues when developing with XAMPP server. Adding to it, when we tried to import data from excel sheet, we hit a snag. Furthermore, we were unable to store images when using LONGBLOB data type. Even while retrieving image from database, there were some barriers. As our project involves building a chatbot, we had some hurdles while trying to create a chat-bot using AIML libraries. Lastly, there were some obstacles while displaying the chat-bot window.

V. Test Strategy

We will be creating test cases that might crash the system. By this we will know the critical point of the system and will be able to develop better product that fulfills all the requirements.

- Unit testing: Purpose of this testing is to test our different modules and making the module as good as possible.[1]
- Integration Testing: After performing all testing of all unit, at the time of merging this testing will be performed to ensure the proper working of the entire system. [1]
- Facility Testing: Facility testing is one of the testing types which we followed to determine that facilities that are mentioned in objectives are implemented or not. Before deploying the product this testing will be performed to ensure all the promised functionality id delivered or not.[2]
- Usability Testing will be performed by multiple users towards the end of the production.[2]

VI. PRODUCT DOCUMENTATION DRAFTS

Product documentation draft refers to use, functionality, creation, or architecture of the product.

A. Functional Requirements

Use case is a model of the system's intended functions and its environment. The use model is used as an essential input to activities in analysis, design and test. As per the system, some major functional requirements identified includes:

- User must find description and Images related to whatever he or she search from anatomy.
- Historical data must be present in order to generate quiz from the words learned by user.
- Authentication is necessary to separate user data from other users.
- Quiz must contain the words which are already searched or studied by user.
- System must give unique words on daily basis, at least 5 words or capacity specified by the user.

B. Non-Functional Requirements

Following are some non-functional requirements:

- System should login user in 1.5 seconds if user enters valid username and password.
- User must see persistent view of the website.
- All link must see the correct page.
- Automatic logout if system is idle for 10 minutes.
- Legal and regulatory requirements, and application standards.
- • Quality attributes of the system to be built, including usability, reliability, performance, capacity, maintainable, manageable, security, data integrity and support requirements.
- Other requirements such as operating systems and environments, compatibility requirements, and design constraints.

References

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