CSCE 361 PROJECT PROPOSAL

Group 11

Provide an overview of the system that you intend to build, describing at a high level what functionality it will provide, and to what user base.

We are going to build an auto-response bot for UNL CSE system. Our motivation comes from the fact that many CSE staffs, professors as well as teaching assistants have to repeatedly answer the same question from different students no matter if it is direct or through emails. In addition, because the questions can cover an extremely large range of aspects, the students sometimes cannot have their answer immediately because the person who they are asking has to do all the searching process manually. This process sometimes shows CSE department's professionalism, respectfulness and friendliness. However, it is also a time-consuming process for staffs, professors, and students.

This auto-response bot gives the staffs or professors more time to focus on complicated questions that need further advanced solutions instead of wasting too much time on repeated questions. By using the built-in database provided by CSE department, our system can automatically recognize and retrieve the most appropriate answers for different questions from the students or notice the server managers that there might be new questions or the ones that need further support. Beside its advantages in student support system, our auto-response bot can also use its ability to automatically extend the database. By this way, it can respond to different type of requests in multiple styles; hence, students will feel of it as a human being when having the conversation.

Because you will be implementing your project in two phases, provide some ideas on what functionality will be implemented for the first phase, and what functionality will be implemented for the second phase.

The program requires three main pieces. The first piece is finding frequently asked questions and corresponding answers from the UNL-CSE website (http://cse.unl.edu/faq) and storing them in a database. The second piece is implementing an algorithm to search for a specific question given by the student and retrieve the most related answer from the database. Finally, the third piece is designing a GUI.

In the first phase, we will develop the first two pieces of our program, along with a simple GUI. We will need to fulfill our database with the most frequently asked questions and answers which provided by CSE department before implementing the code to connect and retrieve data from it. We will also design an algorithm to search for the student's input so that it can return an acceptable answer. In addition, we will let the system automatically extend its database by using students' new inputs that are not found.

In the second phase, we will develop a complete and functional GUI where the application will be emerging toward a fully working state. This GUI will be designed to be clear and friendly so that users can feel comfortable while using it.

In each subsequent phase, we will be looking for additional opinions of actual/potential users and explore feature requests.

Include a brief discussion of the technologies required to create the system. This should include what language(s) you will use, what programming environment(s), and what platform(s) you will support.

In this auto-response bot project, as mentioned above, database is the most important component of the program. Therefore, our team is going to use MySQL for database structures with some help of Java for searching keywords. We will make our own test cases in both Java and MySQL after that, GUI is going to be created for customer. However, if everything's going well for us, we can upgrade the program to web-based or mobile application. So the main platform is going to be Windows operating system. After the core functionality is done perfectly in Phase 1 and 2, we will begin in improving our system so that it also works well on other platforms.

Our team are going to use Facebook Messenger for communicating and Google Drive for sharing all the document. Lastly, we are using GitHub for coding, testing, and deployment.

Discuss why you believe that it is feasible for your team to build this system, given the deadlines for project phases that have been presented. This discussion should also touch on the qualifications of your team to build the system, the availability of the necessary technological support, and any foreseeable risks that might jeopardize your team's ability to complete the required engineering tasks.

In the group meeting, we are all agree that to build the auto-response bot is the best idea out of others. We believe that our team is feasible to build the system because we are very familiar with Java and mySQL. For the group members, we all have the knowledge in how to work with Java and connect it with mySQL, as well as store and retrieve information in mySQL database. We think there won't be any big problem when to build the system, everyone should be able to code and understand the coding. Right now, we are not too worried about the GUI since we all have learned it in the past. These are two challenges we are facing right now. First, since it's a conversational auto-bot, the data that store in our database can be humongous if English grammar and punctuation matter. Second, we want to upgrade our system into Web or phone application, but none of us has ever built this type of app. It might be the biggest challenge in the future, but right now this is only an idea. Up to this point, our group member all carry different type of knowledge to building the system, so we are confident that our team will has the ability to complete the required engineering tasks.