

## Animated Virtual Agent Retrieving Information (AVARI)

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### Introduction

I created the Q/A Database for the AVARI Project and I had clear goals given to me by Dr. Hodges and with input of the rest of the project members. The goals are listed below and form an outline for this Project.

- Create database and learn how to access it
- Create functions to retrieve answers based on input of content recognized.
- Communicate with content recognition group for inputs and outputs

### Background

The most widely known and perhaps most similar system to AVARI is called BASEBALL (1961, et al Green). In this system the Natural language question answering system takes an input question and searches a structured database for an answer. After it has retrieved what it thought was an answer it would then communicate it back to the user.

The key differences are that unlike BASEBALL, AVARI contains a database instead of scanning one, BASEBALL dealt with the semantics and syntax of questions while AVARI merely tries to match questions to an existing finite list of questions and answers, and AVARI relays all communication in voice instead of text.

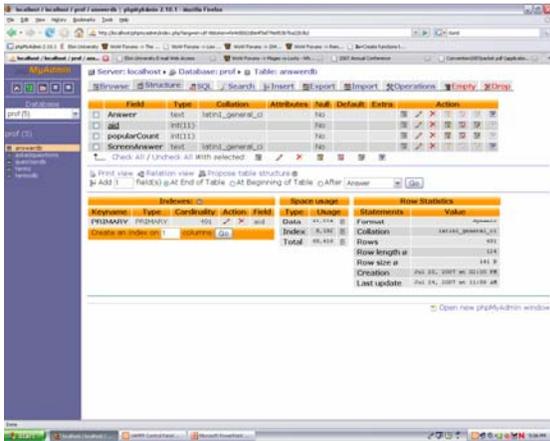
### Research

#### Pre-Database:

I participated in the design of a group survey to ask questions listed in the proposed database. This survey took into account various questions each member of the REU FCL team proposed and then used the very best to form a questionnaire pasted out to 35 faculty members. Of 35, 18 responded but only 17 are listed in the database. The 18<sup>th</sup> was late but will be listed at a later date.

#### Database:

- Create database and learn how to access it
  1. Created a database, named it and set tables for Question/Answer and eventually Terms.
  2. Populated that database with Professors and their answers to various questions
- Create functions to retrieve answers based on input of content recognized.
  1. Added columns that mattered such as qid for question ids, aid for answer ids and other columns so that we could distinguish data and make queries easier and with data on anything.
- Communicate with content recognition group for inputs and outputs
  1. Listened and adjusted the database to the needs and concerns of the Content Recognition group. An example of this is the Terms table which came about as a direct result of the needs of the Content Recognition group.



This picture is of the database as viewed through phpMyAdmin

### Impact

1. I receive a general idea of what it must be like to program a big database by the experimentation of this one.
2. I learned how to navigate XAMPP as well as phpMyAdmin and MySQL.
3. AVARI now has a database that can be modified to include the entire computer science faculty and one day even all of UNC Charlotte faculty.
4. I had the opportunity to have to tailor a project to the needs of multiple people and their contributions to the project.

### Conclusions

- The longer we test AVARI the more real conclusions about the database we can make.
- MySQL was the perfect language to pick when paired with phpMyAdmin. The original choice was Access or MySQLAnywhere for the database administration but they turned into headaches.
- As the database grows larger and larger we will have to make sure to correct mistakes as they happen or risk having to run through a to a lot of data to change it.

### Future Work

1. Add more professors to existing database with their responses
2. Add more Questions/Answers to Survey and then redo the database with new additional responses
3. Add In-depth Question/Answers with multiple responses

Below is a picture of AVARI Team



