



ChatterJack Chatbot

Capstone Presentation

Team JabberJack

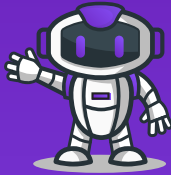
Team Member: [Sara](#), [Jiasheng](#), [Tyler](#), [Gabriel](#)

Faulty Mentor: [Felicity H. Escarzaga](#)

Client: Dr. Andy Wang

Date: 04/22/2022

Problem Statement:



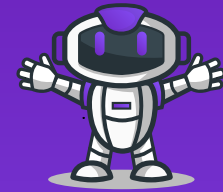
01. Distraction of Staff

- ❖ Staff have a job to do and needing to answer questions may pull them away from other tasks
- ❖ If they do not know the answer to a question then they must find it



02. Scattered Data

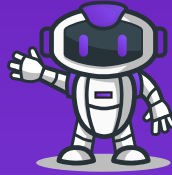
- ❖ Data regarding the university is scattered and buried under complex queries and countless portals
- ❖ Often outdated and unreliable



03. Unanswered Questions

- ❖ Students/Visitors have many questions and cannot always find the answer online
- ❖ Could email, leads to wait times and often leaves questions unanswered

Solution Overview



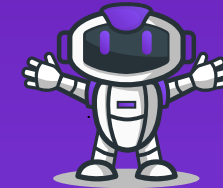
01. Centralized Database

- ❖ Place data in a central location for ease of accessibility



02. Easily Updatable

- ❖ Updatable information behind an authentication system
- ❖ Keeps information up to date and allows manual entry of information

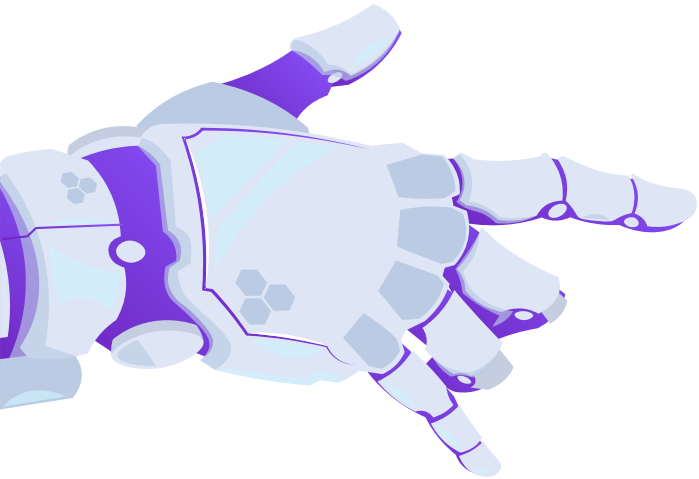


03. Quick answers

- ❖ Provide answers to visitors/students in a short amount of time
- ❖ No question left unanswered (provided the bot knows it)

Requirements Overview

Key Requirements



01 User Level

- ❖ Input question through text/speech
- ❖ Receive back answers through text/speech
- ❖ Administrators will be able to edit DB information

02 Non - Functional

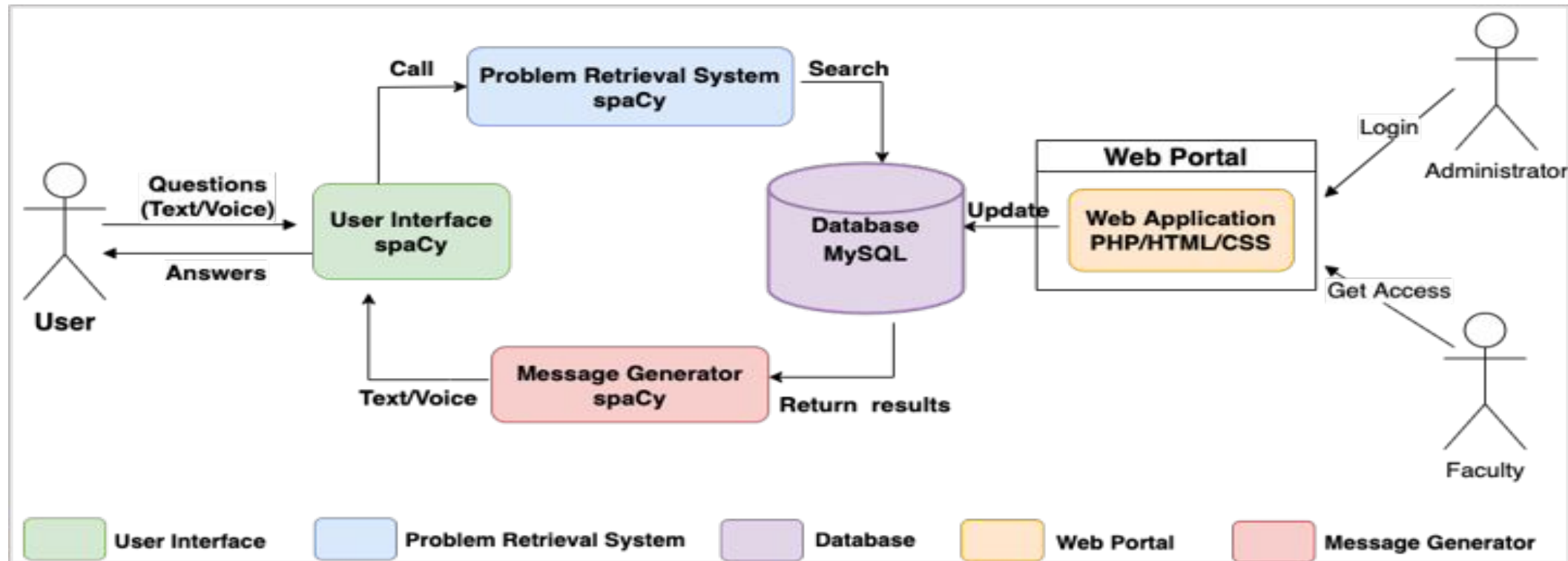
- ❖ Intuitive user interface
- ❖ Speed - 5 sec response time maximum

03 Environmental

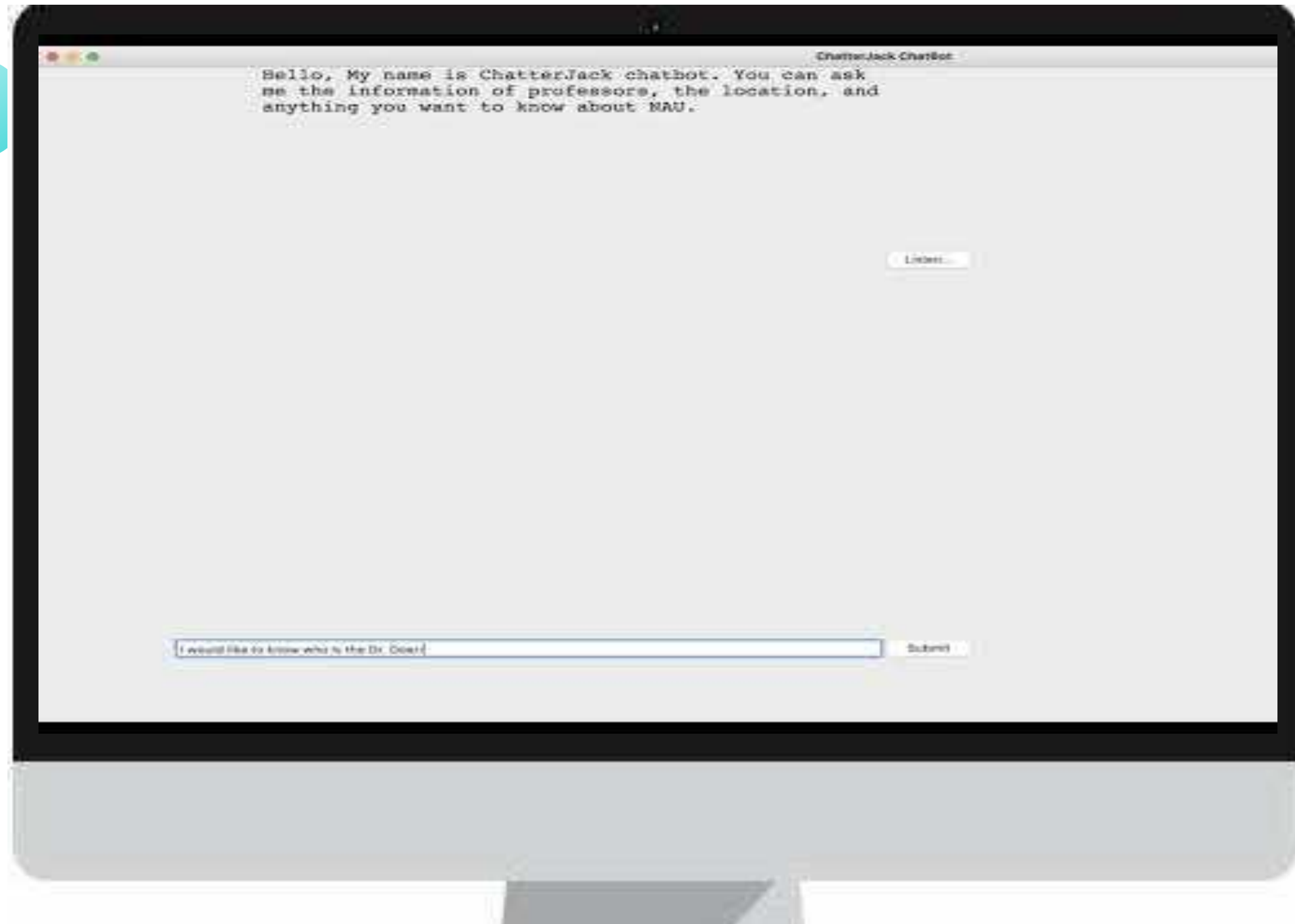
- ❖ OS - Windows
- ❖ Physical integration with M.E project (stretch)

Architecture and Implementation Overview

- Problem Retrieval System (Python: spaCy-NLP)
- Database (MySQL)
- Message Generator (Python: spaCy + pymysql)
- Web Portal (PHP+MySQL)
- User Interface (Python: wxpython)



ChatterJack Chatbot



ChatterJack Chatbot




Login

Login


[Forgot Password](#)

Register

 Username

 Password

 Email

 Account Type: ADMIN/FACULTY

Register

Manage Information Database

Insert Information:

Insert

Edit Information:

Edit

Delete Information:

Delete

Search for Information:

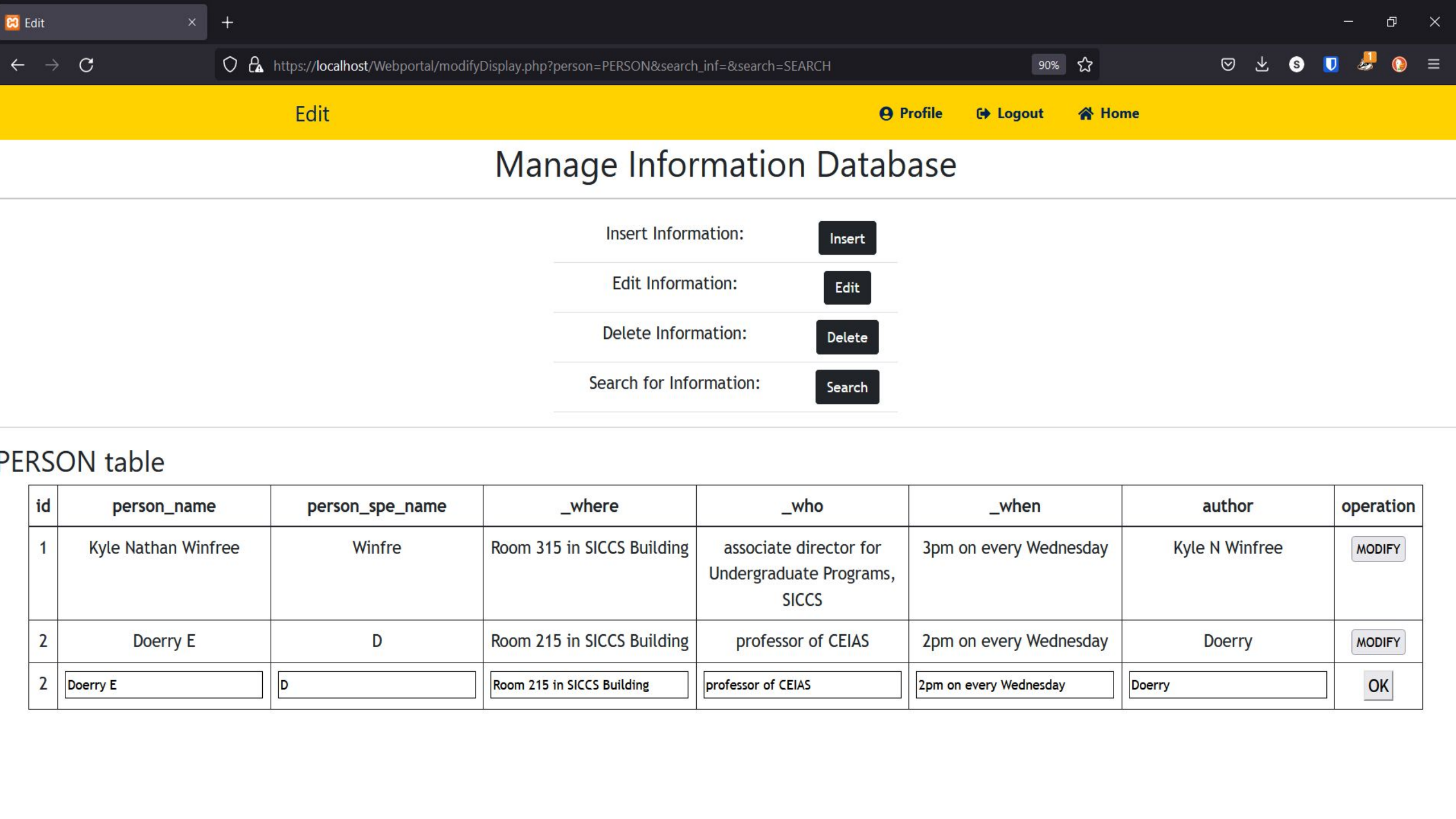
Search

Delete information:

Search Information:

Select which table you want to insert information: PERSON CLASS ORG

person_name:	<input type="text" value="Full Name, e.g. Eck Doerry"/>
person_spe_name:	<input type="text" value="Special name, e.g. 'Dr.D'"/>
_where:	<input type="text" value="Office, e.g. Room 315 SICCS Building"/>
_who:	<input type="text" value="Job title/description"/>
_when:	<input type="text" value="Office Hour"/>
author:	<input type="text" value="Author, e.g. Eck Doerry"/>



Manage Information Database

Insert Information:

Insert

Edit Information:

Edit

Delete Information:

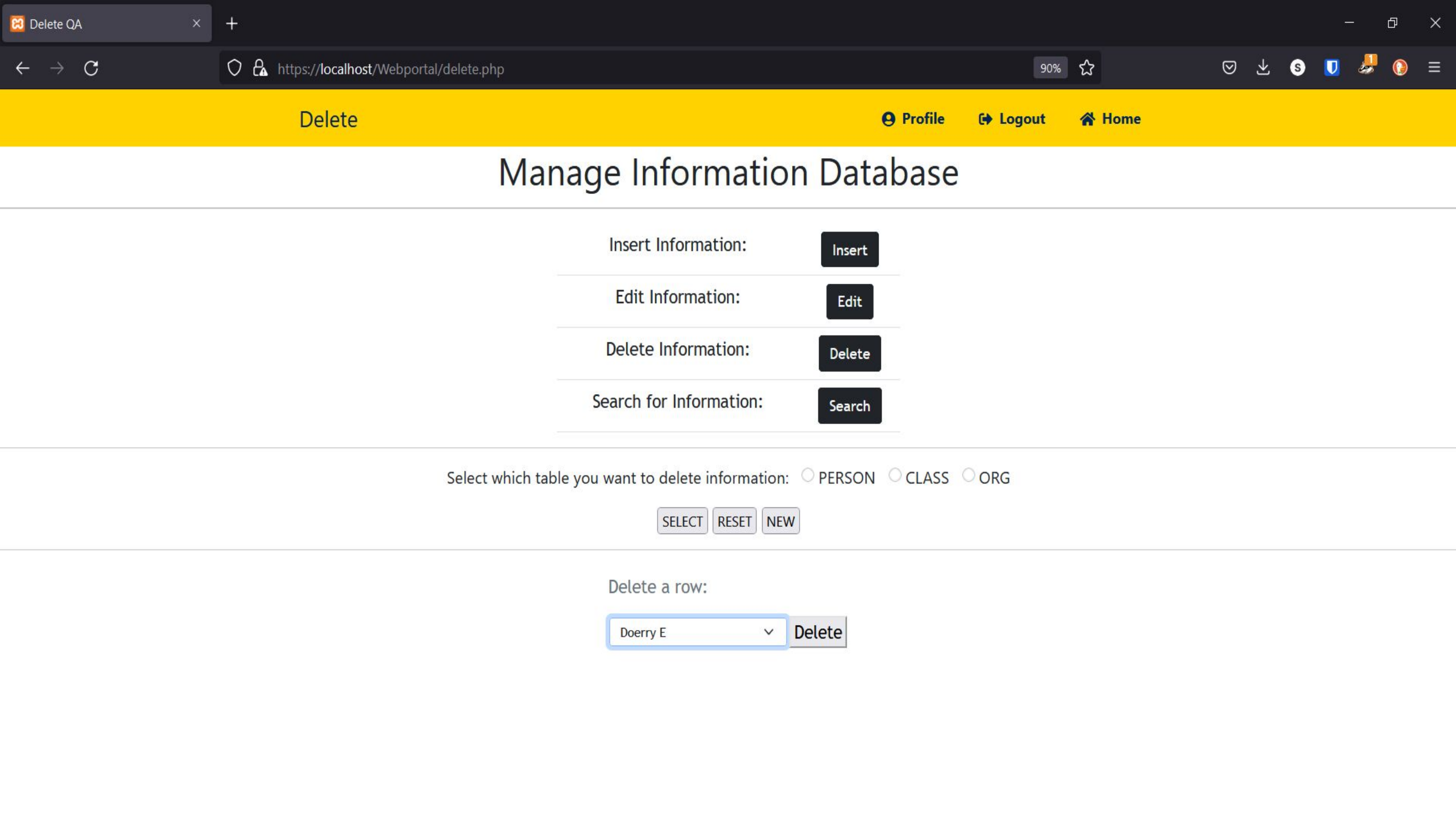
Delete

Search for Information:

Search

PERSON table

id	person_name	person_spe_name	_where	_who	_when	author	operation
1	Kyle Nathan Winfree	Winfre	Room 315 in SICCS Building	associate director for Undergraduate Programs, SICCS	3pm on every Wednesday	Kyle N Winfree	MODIFY
2	Doerry E	D	Room 215 in SICCS Building	professor of CEIAS	2pm on every Wednesday	Doerry	MODIFY
2	<input type="text" value="Doerry E"/>	<input type="text" value="D"/>	<input type="text" value="Room 215 in SICCS Building"/>	<input type="text" value="professor of CEIAS"/>	<input type="text" value="2pm on every Wednesday"/>	<input type="text" value="Doerry"/>	OK

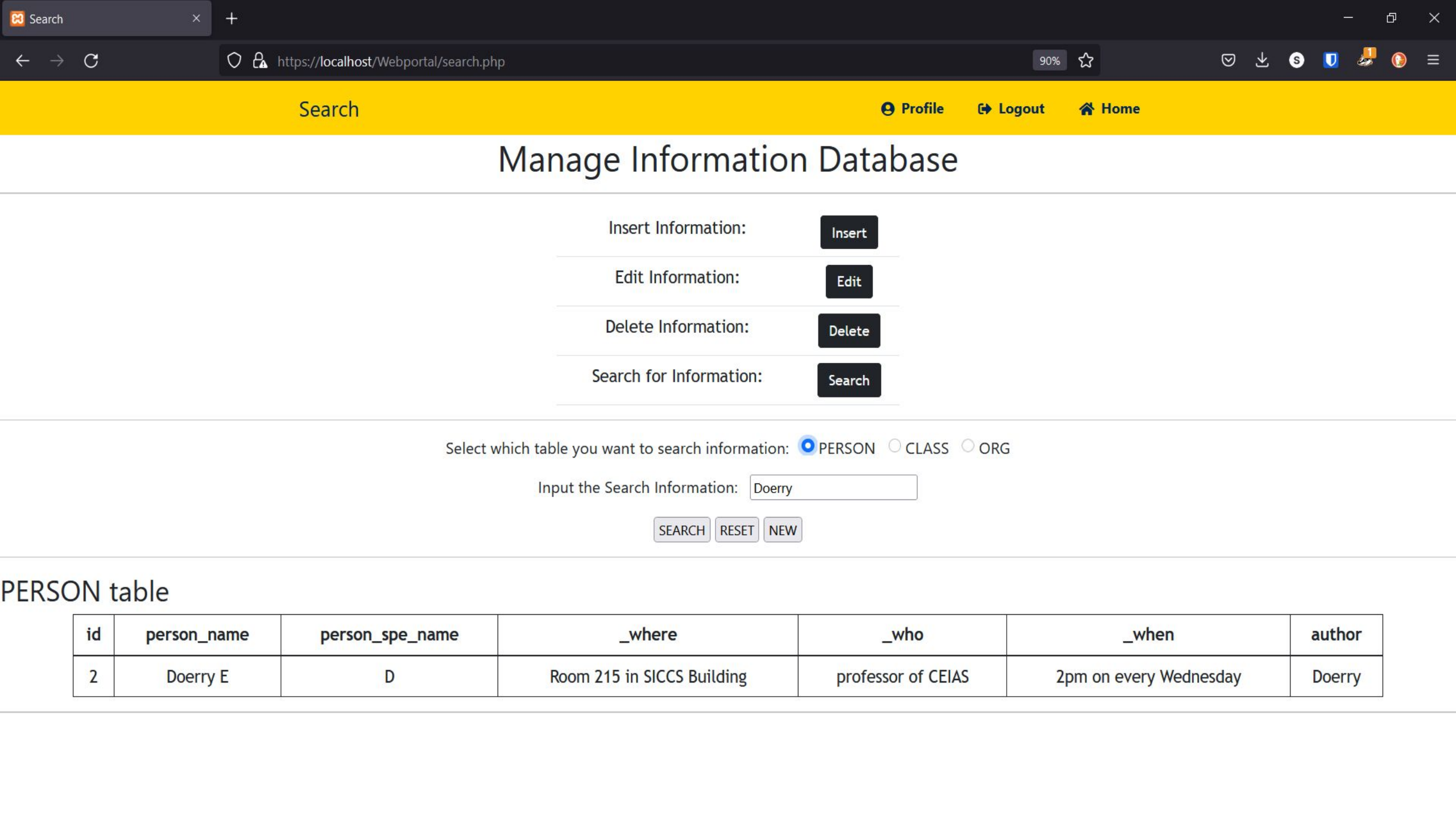


Manage Information Database

Insert Information:	<input type="button" value="Insert"/>
Edit Information:	<input type="button" value="Edit"/>
Delete Information:	<input type="button" value="Delete"/>
Search for Information:	<input type="button" value="Search"/>

Select which table you want to delete information: PERSON CLASS ORG

Delete a row:



Manage Information Database

Insert Information:

Edit Information:

Delete Information:

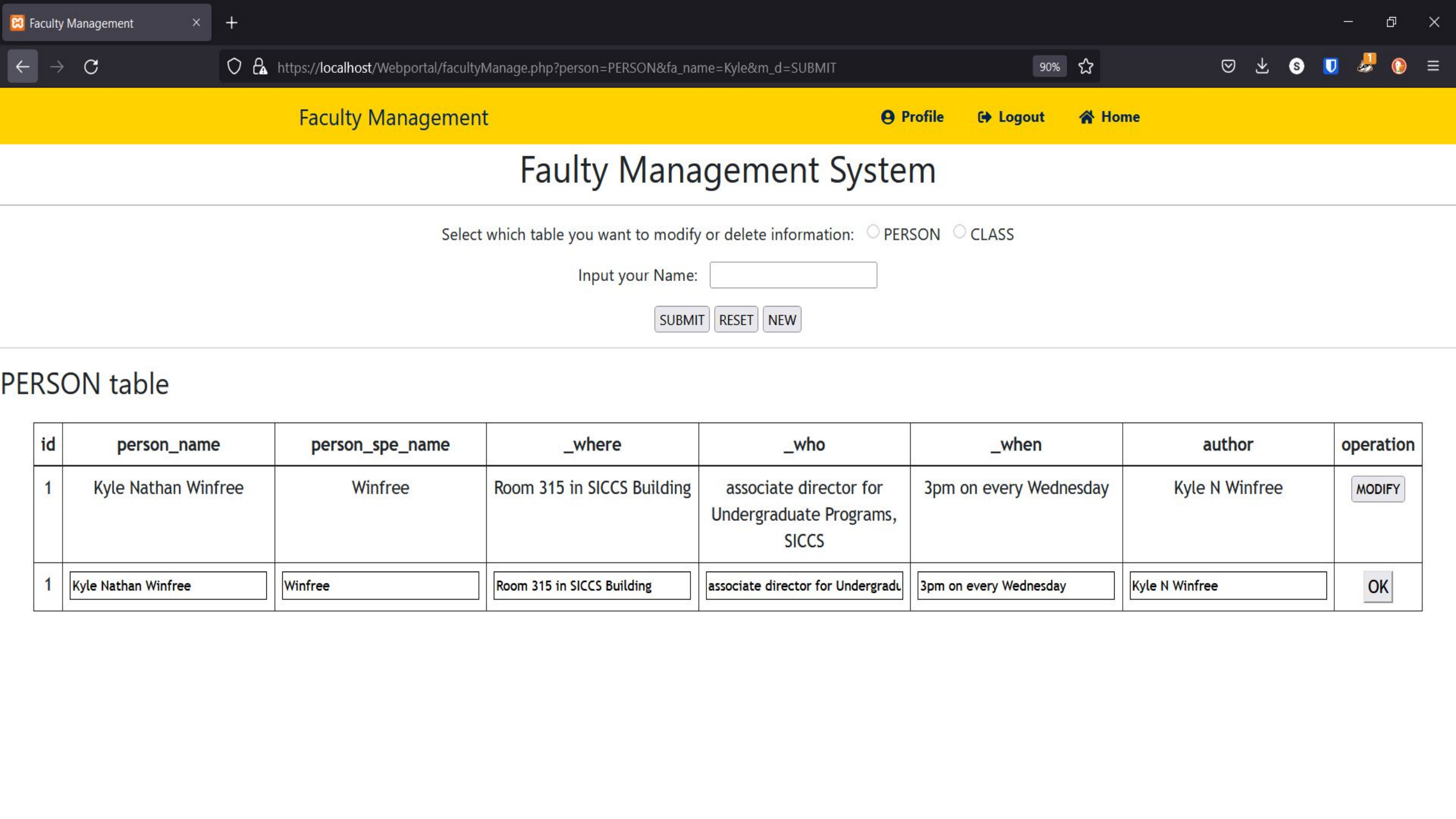
Search for Information:

Select which table you want to search information: PERSON CLASS ORG

Input the Search Information:

PERSON table

id	person_name	person_spe_name	_where	_who	_when	author
2	Doerry E	D	Room 215 in SICCS Building	professor of CEIAS	2pm on every Wednesday	Doerry



Faulty Management System

Select which table you want to modify or delete information: PERSON CLASS

Input your Name:

SUBMIT RESET NEW

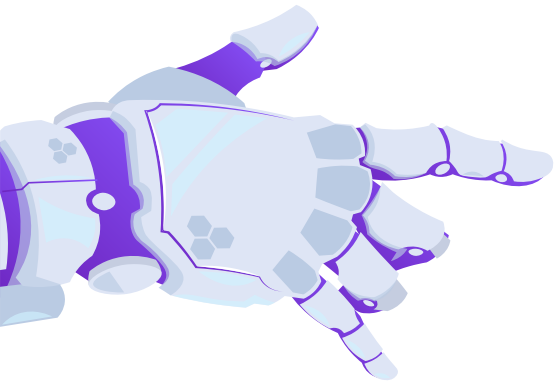
PERSON table

id	person_name	person_spe_name	_where	_who	_when	author	operation
1	Kyle Nathan Winfree	Winfree	Room 315 in SICCS Building	associate director for Undergraduate Programs, SICCS	3pm on every Wednesday	Kyle N Winfree	MODIFY
1	<input type="text" value="Kyle Nathan Winfree"/>	<input type="text" value="Winfree"/>	<input type="text" value="Room 315 in SICCS Building"/>	<input type="text" value="associate director for Undergradu"/>	<input type="text" value="3pm on every Wednesday"/>	<input type="text" value="Kyle N Winfree"/>	OK



Challenges and Resolutions

Challenges	Resolutions
Database Layout	Simpler database
Web Portal	PHP & MySQL vs. Framework
Python Library for GUI: Kivy	wxPython
Integrate Speech-To-Text	Python Library



Testing

01

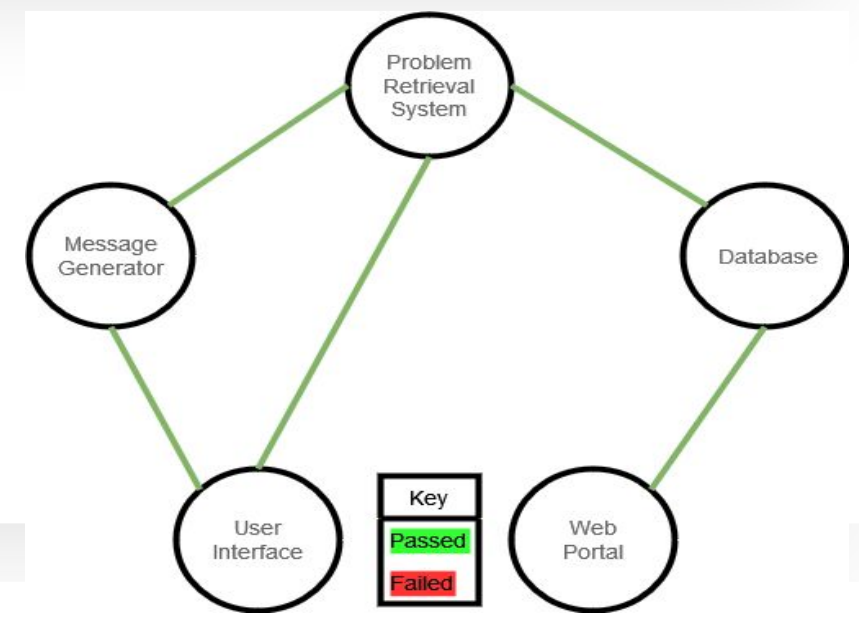
Unit Testing

- ❖ Web Portal Login and Register System
- ❖ Natural Language Processing

02

Integration Testing

- ❖ Five Connections

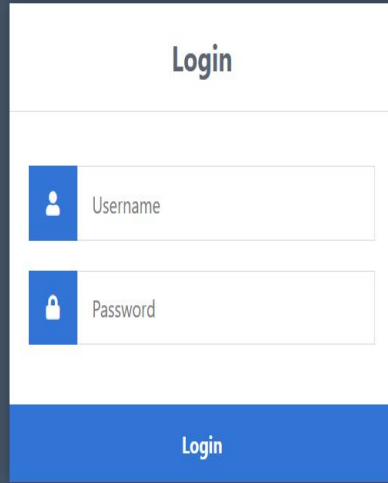


03

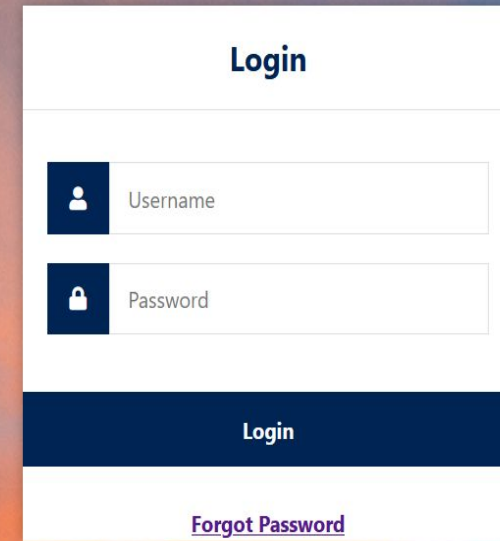
End-User Testing

- ❖ General User
- ❖ Faculty/Administrator

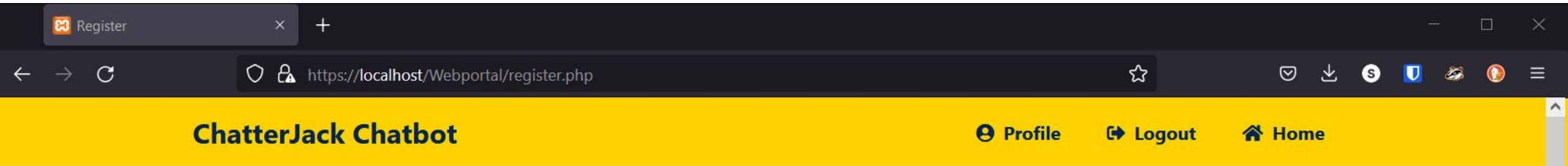
User Testing Improvements



The original login form is titled "Login" and features two input fields: "Username" with a person icon and "Password" with a lock icon. A blue "Login" button is positioned at the bottom of the form.



The improved login form is titled "Login" and features two input fields: "Username" with a person icon and "Password" with a lock icon. A dark blue "Login" button is positioned below the fields, and a red arrow points to a new "[Forgot Password](#)" link located below the button.



The screenshot shows a web browser window with a yellow header. The browser tab is labeled "Register" and the address bar shows "https://localhost/Webportal/register.php". The header contains the text "ChatterJack Chatbot" on the left and navigation links for "Profile", "Logout", and "Home" on the right.

Future Work

01. Robot Brain

The ChatterJack chatbot will be a 'brain' for the "Louie Robot"

02. Artificial Intelligence

Similar to other chatbots like the echo dot and google home

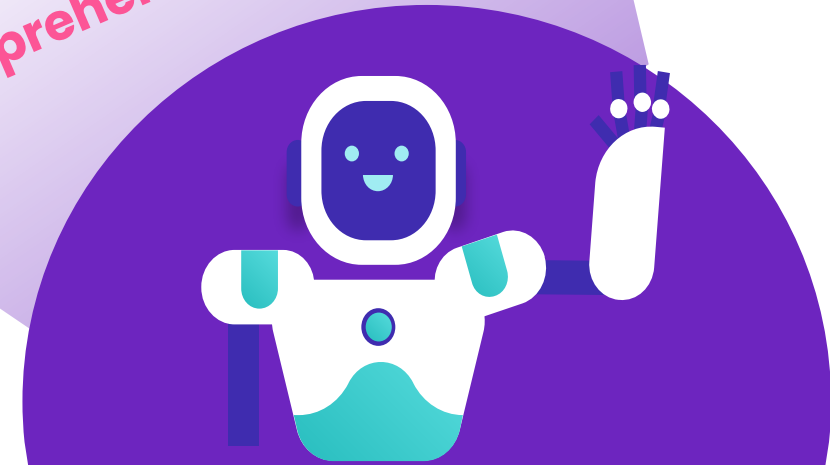
03. Comprehensive Database

Answer more complex questions

Artificial Intelligence

Robot Brain

Comprehensive Database

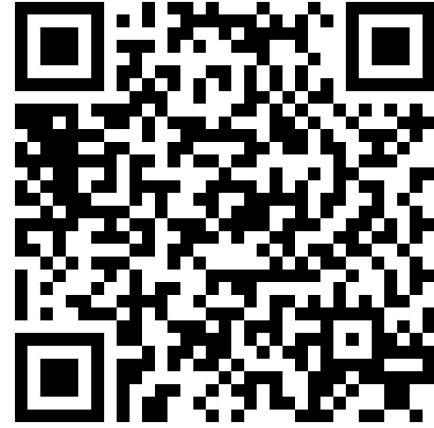




Conclusion

- ✓ Use NLP to grab the key information
- ✓ Text-to-Speech/Speech-To-Text
- ✓ Comprehensive Database
- ✓ Set a foundation

Follow Our Project



Get in touch with us

JabberJack always jabbers

"Intelligent brain" for Louie Bot