Discussion: Course Project

Course Project – Assembling of Prog. Assignments

- **Project**: Develop collaborative assistants (chatbots) that offer innovative and ethical solutions to real-world problems ! *(Based on competition - https://sites.google.com/view/casy-2-0-track1/contest)*
- Specifically, **the project will be building a chatbot that can answer questions about a South Carolina member of state legislature from**: https://www.scstatehouse.gov/member.php?chamber=H
  - Each student will choose a district (from 122 available).
  - Programming assignment programs will: (1) extract data from the district, (2) process it, (3) make content available in a command-line interface, (4) handle any user query and (5) report on interaction statistics.

Core Programs Needed for Project

- Prog 1: extract data from the district **[prog1-extractor]**
- Prog 2: process it (extracted data) based on questions **[prog2processor]**
- Prog 3: make content available in a command-line interface **[prog3-ui]**
- Prog 4: handle any user query **[prog4-userintent2querymapper]**
- Prog 5: report statistics on interaction of a session, across sessions **[prog5-sessionlogger]**

- Full Chatbot - Prog 6: **[myrep-chatbot]**

Prog 6: Assembling the Chatbot

- Have a program - **[myrep-chatbot]**
- User interacts with the chatbot with any utterance and the system has to answer – see right
- User can ask about statistics and query log
  - Same as PA5
  - See next slide

[#1] "Quit" or "quit" or just "q" => Program exits
[#2]"Tell me about the representative", "Tell me about the rep" => Personal Information (Type-I2)
[#3]"Where does the rep live" => Contact Information (Type-I1): Home Address
[#4]"How do I contact my rep " => Contact Information (Type-I1)
[#5]"What committees is my repo on" => Committee Assignments (Type-I3)
[#6]"Tell me everything" => Give all information Extracted
[#7] "What district do you support for Q/A" => Give district number and name
[#8] *<User can enter any other text and the program has to handle it>* => "I do not know this information" or
"Here is my guess - " + <query> + <answer>. "Did I answer correctly ? "

All Queries to be Supported

[#1] "Quit" or "quit" or just "q" => Program exits
[#2]"Tell me about the representative", "Tell me about the rep" => Personal Information (Type-I2)
[#3]"Where does the rep live" => Contact Information (Type-I1): Home Address
[#4]"How do I contact my rep " => Contact Information (Type-I1)
[#5]"What committees is my repo on" => Committee Assignments (Type-I3)
[#6]"Tell me everything" => Give all information Extracted
[#7] "What district do you support for Q/A" => Give district number and name
[#8] *<User can enter any other text and the program has to handle it>* => "I do not know this information" or
"Here is my guess - " + <query> + <answer>. "Did I answer correctly ? "

myrep-chatbot –summary
=> There are 12 chats to date with user asking 23 times and system respond 24 times. Total duration is 456 seconds.
- **myrep-chatbot** –showchat-summary 2

=> Chat 2 has user asking 2 times and system respond 2 times. Total duration is 4 seconds.
- **myrep-chatbot** –showchat 2

=> Chat 2 chat is:
…
- **myrep-chatbot** –showchat 200

=> ERROR: there are only 12 chat sessions. Please choose a valid number.

Project – PA#6

- Code organization
  - Create a folder in your GitHub called "**myrep-chatbot**"
  - Have sub-folders: src (or code), data, doc, test
  - Have data directory as shown in previous slide
    - ./data/**chat_sessions/**
    - ./data/ **chat_statistics.csv**
  - Create/ write a
    - Video in ./doc sub-folder demonstrating the working of chatbot
    - Report in ./doc sub-folder. Credit reuse
    - Create a presentation in ./doc sub-folder
  - Put a log of system interacting in ./test
  - Send a confirmation that code is done by updating Google sheet; optionally, send email to instructor and TA

- Use concepts learned in class
  - Exceptions
  - File operations
  - PA1 to PA5 from yourself or others; credit reuse in Readme, report and presentation

Submission Guidelines and Deadlines

- The breakup of marks (100) will be as follows –
  - 20 points for the fully working demo, due by Tuesday, April 12, 2022. Submit code and video.
  - 40 points for report, due by Friday, April 15. Submit report in format.
  - 40 points for the presentation, due by Tuesday, April 19.
  - There will be no further submissions.
- To show working demo - due by Tuesday, April 12, 2022
  - Submit code to your github and update PA spreadsheet
  - Submit a video of the chatbot running and answering all 12 questions

Format for Project Report –
Due by Friday, April 15, 2022

- Requirement – What did the instructor ask you to do?
- Specification – What did you you do, what scope you selected and what decisions you made?
- Development highlights – How was your code implemented, e.g., module design, classes ? How did you test ? What problems did you face and how did you solve them?
- Reuse – What did you do to make your code reusable? Whose code did you use and why? Who is using your code and why ? What challenges did you face?
- Future work - What more can be done to make your chatbot useful? How will the code need to be changed over time?

Project Presenter Name:
Student Name:

Scope: District, Prog. Language

Data: What data is available and what is retrieved from program ?

Code Organization: Anything significant to highlight ?

PA1:
PA2:
...
PA6: code reuse by someone, and of someone

Queries Snapshot

Video link:

Experience implementing the chatbot, Testing