CS673 Software Engineering
Team 5 : BU Academic Navigator (BUAN)
Meeting Minutes

All meeting minutes are kept in this single document. The latest meeting minutes should be at the beginning of the document. For example, meeting 3 minutes is placed before meeting 2 in the document. The team leader should prepare a basic agenda for the meeting and team members should rotate to be the minutes taker. Each group should have at least one meeting per week, and you may have multiple meetings if needed.

Meeting 5 Week 5

Date and Time: Tuesday, Sep 24, 2024 9:30 PM EST
Place: Virtual Remote Discord
Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom Chantarapornrat, Yu Jun Liu
Minutes taker: Yu Jun Liu (AJ)
Timekeeper: Yu Jun Liu (AJ)

Purpose:

- Planning for Iteration 2 and 3

Agenda:

1. Reiterate tasks in each micro team
    - Python AI Service
    - Spring Boot
    - PostgreSQL
    - Integration (backend)
    - Frontend
    - Integration (backend to frontend)
    - QA/Testing
    - Docker/AWS deployment
2. Setting deadlines
3. Documentation needs (what do we need to add?)
4. Other comments
5. Linting/Formatting

Discussions:

1. **Reiterate Tasks in Each Micro Team**
    - **Python AI Service (Poom/Tash)**
        - Integrate API with Spring Boot (SB) backend. A shuttle team call between Python and SB teams is scheduled for Wednesday, September 25, at 8:30 PM.
        - Create the Prompt Library JSON file.
        - Provide course waiver information.
        - Implement specialized queries based on F-1/J-1 international student requirements.
        - Update the Course Builder in real-time.
        - Enable the Course Builder to be called repeatedly based on conversation listener by the Langchain Agent.
        - Utilize a conversation scraper by the Langchain Agent to identify keywords for function calls or store keywords as input parameters.
        - Integrate the Prompt Library file into the Chatbot implementation.
        - Develop unit tests.
    - **Spring Boot (Ananya)**
        - Manage request and response handling from the frontend UI.
        - Develop the User API (GET/POST) for New User and Get User functions.
        - Implement Okta integration for user authentication.
        - Facilitate calls to the Chatbot implementation.
        - Create unit tests.
        - Establish a security layer.
    - **PostgreSQL**
        - No additional tasks for Iteration 2; script is complete and will be deployed in Iteration 3.
    - **Frontend (Natt)**
        - Log in site responsibilities have been transferred to Ananya.
        - Log in button (Okta) and form submit button for creating new users (to collect input parameters for Course Builder implementation).
        - Develop functionality for the Chat UI.
        - Implement the "Save Chat" button to convert chat history JSON files to PDF format (using file saver dependencies).
        - Log out button (Okta).
        - New chat button implementation.
        - Integration with the backend Chatbot implementation (via Postman).
        - Create a Chat History Page.
    - **QA/Testing (Battal)**

        - Protecting branches: Everyone should create future branches for development (dev/stage/main for production).
        - Implement integration/functional tests.
        - Apply an Automation Framework using Behavior-Driven Development (BDD).
        - Resolve the Docker build error.
        - Set up AWS deployment in Iteration 3.
2. **Setting Deadlines**
    - **Python AI Service**
        - All implementations to be finished by the end of this week (Sunday).
    - **Spring Boot**
        - Complete integration with the AI service backend by September 25 with Poom and Tash.
        - Finish Okta integration with the login/signup page for the frontend by September 28.
    - **PostgreSQL**
        - PostgreSQL setup is complete for this iteration (not applicable).
    - **Integration (Backend)**
        - Complete integration from the form page frontend to the AI service backend by Friday, September 27.
    - **Frontend**
        - Finish form page frontend by Friday, September 27.
        - Complete Integration API by September 30 for Postman to call the AI service implementation.
        - Develop functions for buttons (log out, save chat/convert to PDF, new chat) by October 3.
    - **QA/Testing**
        - AJ to assist with unit testing (functional testing may also be beneficial).
        - Battal to supervise QA Testing and integration testing.
    - **Docker/AWS Deployment**
        - AWS setup to begin in Iteration 3.
3. **Documentation Needs**
    - **README:** Ananya to update.
    - **SPPP Risk Management Docs:** Poom to complete.
    - **SDD:** Ananya to add his revision updates. Natt to include changes in the UI section.
    - **Demo:** Poom to present additional testing details alongside Battal.
    - **PPT Slides and Video:** Tash to prepare.

4. **Other Comments**
    - **To-do for AJ:**
        - Assist with Java, Python (autopep8), and React linting/formatting synchronization.
        - Add comments and file summaries at the top of code files for improved readability.
        - Incorporate unit tests for missing sections.
    - **Communication:**
        - Poom and Ananya to meet on September 25 to discuss API integration.
        - Natt to message teammates by Friday if additional support is needed.
    - **Testing:**
        - Unit level testing is for development and is not included in higher-level testing (functional testing).

Key Decisions:

1. Natt to prioritize the frontend on the Form Page for creating new users (urgent for the Python AI service team) to be finished by Friday this week.
2. Frontend Login/Signup page responsibilities passed to Ananya, who will handle Okta (to be completed by Sunday this week).
3. Natt to start preparing videos and presentations by next weekend (ensuring frontend functionalities are complete by next Thursday).
4. Natt to complete Chat History UI by Saturday.
5. Integrate Chatbot UI to Postman by Tuesday at the latest.
6. The Prompt Library JSON to be finalized by Friday; Tash will pass Poom the draft integration code with the JSON file.
7. Poom to test Tash's integration code for the AI Chatbot by Sunday.
8. Poom and Tash to code function calls and add Langchain agents for calling functions/save input to variables by Friday.
9. AJ to support linting, formatting, and unit testing.
10. Battal to initiate the BDD framework and continue maintaining CI/CD.
11. Next meeting scheduled for Sunday, September 29, at 9:30 PM EST.
12. If Natt or Battal need assistance, other developers should provide help once their parts are completed this week.
13. Ananya to add the security layer and push it to Iteration 3.

Action Items:

1. Discuss backend and frontend integration this week with Ananya, Poom, and Tash.
2. Battal to assist with recording during testing to share for the Iteration 2 Demo.
3. AJ is working on automating the fixing format feature to ensure everyone passes the CI workflow run.
4. Natt to complete the Create New User page as soon as possible.
5. Poom and Tash to finalize Chatbot implementation by this week (including the Prompt Library and Langchain agents).
6. Natt to finish the Postman integration for the Chatbot Implementation.
7. Ananya to set up Okta and complete the Login/Signup page.
8. Natt (and others) to focus on Chat History UI and Chat Sidebar functionality UI.
9. Update `Readme.md`: Ananya to take the lead.
10. Update SDD: Natt to add UI revisions, and Ananya to include Spring Boot add-ons.
11. Update SPPP Risk Management: Poom to manage this task.
12. Prepare PPT slides: Tash to take charge.
13. Prepare demo: Poom (with support from Battal on QA/Testing).
14. Prepare PPT video: Tash to produce.
1.

Meeting 4

Meeting 4 Week 4

Date and Time: Friday, 20th September 2024 7:30 PM EST
Place: Virtual Remote Discord
Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom Chantarapornrat
Minutes taker: Battal Cevik
Timekeeper: Battal Cevik
Purpose:

- Finalizing the details of the iteration 1 build
- Documentations to finish over weekend
- Unit tests
- Updating work
- Final additions to work on for iteration 1 release

Agenda:

- Updating work for the past week
- What other things need to be done for the iteration 1 release

- Support to complete the compiling
- Setting up Linting and Formatting checks to solve the build error
- Will we be able to finish compiling tonight, or push back to monday?
- On integration between SB and python - chat_history and input parameters for the course builder.

Discussions:

- Discussed the docker file and docker compose file =
- Discussed the PR review and how to create small PRs in order to split approval
- Backend PR is ready for Spring Boot application
- For Iteration one team decided hardcoded for chatbot response for demo
- Postman Post call is ready for local deploy
- For demo we need to run spring boot locally using docker compose
- We need UI frontend docker compose to be ready
- Battal and AJ will work on configuration part
- Battal to create folder structure for repo
- Unit tests is done for ai-service
- Database design is ready
- Team needs to switch the token to session id.
- 2 part, first one we are going over SDD documents. The second going over the actual code and live demo
- Talked about linting and formatting the codes
- Talked about best practices writing codes
- To PR work in smaller chunks (per functionality)

Key Decisions:

- Finalized the docker file and docker compose file discussion
- Finalized PR review and how to create small PRs in order to split approval
- Backend PR is ready for Spring Boot application
- Updating Jira
- Creating test cases for functionalities
- Deciding on a linting package for each language

Action Items:

- UI will be ready for running locally Natt
- Create best practices for each component Battal
- For each component please add linting tool to format the code - everyone
- Poom to update the hardcoded JSON file
- Battal to include AJ on the CI/CD support
- Poom and Tash to finish up up on the Prompt library for next iteration before supporting front-end or SB team, but definitely the documentations
- Tash to update the JIRA

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Minutes taker: Battal Cevik
Timekeeper: Battal Cevik
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Meeting 3

Date and Time: Sunday, 15 Sept 2024 9:35 PM EST
Place: Virtual Remote Discord
Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom Chantarapornrat, Yujun Liu
Minutes taker: Poom Chantarapornrat
Timekeeper: Poom Chantarapornrat
Purpose:

- Setting up for Iteration 1
- Progress update

Agenda:

- Progress update:
    - Front-end
    - Python AI Service team
        - Chatbot base (completed)
        - Dt design/Implementation (delay)
        - Mongodb – deploy push to iteration 2
        - Prompt library (TODO)
        - Goals:
            - Level 1: Use mongodb/vector to retrieve course/program info
            - Level 2: Use dt to retrieve course building function

            - Level 3: Use prompt library for logic-based query
                - E.g. what 500-level courses options can I take
                - E.g. based on my courses I've taken, which courses can I take?
                - E.g. to graduate within x-semesters how many courses and which courses should I take a semester?
        - SpringBoot Java team
        - Unit Test and other QA detailing
        - DBMS mgmt
- Check-in/Clarification (Make sure everyone is on same page)
- Iteration 1 Planning
    - What will be in it for each section
        - Front end
        - Python ai service
        - spring boot
        - CI/CD
        - Dbms mgmt
    - Reminder writers: Natt and Battal
    - Writing update
- Next steps:
    - Integration
    - Additional features
- Improvements
- Next meeting date

Discussions:

- Name changed: BU Academic Navigator (BUAN)
- Progress
    - Front-end
        - Nat is finishing the authentication page using React/Redux
        - Nat is also finishing the main chat user interface
    - Java backend
        - The backend team pushed out the initial SpringBoot code to our GitHub repository.
        - Already set up the boilerplate code to get started
        - Already created the initial Flask implementation code for the backend API.
    - Python AI API
        - The AI team pushed out the first model prototype which can answer some basic questions about course descriptions.

        - Working on the class recommendation algorithm with the decision tree.
- Iteration 1 Planning
    - The front-end team continues to finish the initial user interface just for the MVP
    - The AI team will create a mockup JSON format for the chatbot API for the Java backend team to test
    - Try to implement the actual Python API with Flask/HuggingFace
    - Everyone is going to have a quick meeting to integrate everything from front to back this Friday.
    - Set up docker and complete Lab 2.
    - Complete iteration 1 materials: STD, SDD, etc.
- Improvements
    - Revise our general user requirements
    - Move the tasks from GitHub issues to Jira.
    - Add more prompts to the prompt library for testing
    - Revise the SPPP file
- Next meeting date – Sunday, September 22. 9:30PM

Deliverable material responsibility

- Update readme.md (Poom)
- Presentation slides iteration 1(Natt/Battal)
- Ppt video + demo (Natt/Battal)
- Update SPPP doc (YiJun)
- Update SPPP Risk mgmt (Tash)
- Complete SDD (Natt/Poom)
- Complete STD (Battal)
- Fill progress report (Everyone + Tash)
- Code (Ananya - compile)

Key Decisions:

- Iteration 1
    - MVP
        - Front end UI
        - Course Builder
        - Vector-based RAG
        - Postgres DBMS
        - Spring Boot Integration
        - Unit Testing and QA
- Iteration 2
    - Frond end UI
    - Python AI Service:

        - Add mongodb
        - Add prompt library
    - Spring Boot Java
    - Unit Testing and QA
- Iteration 3
    - Update MVP & Testing

Action Items:

- Next meeting datetime (done – Friday 20th September)
- Finish the course builder feature by next week (Tash to finish)
- Put together Python AI script to Spring boot (Poom, Ananya)
- Set up the Postgresql database (AJ)
- Finish the Chatbot UI for iteration 1 demo (Natt)
- Unit test for course builder, chatbot, sb, and other implementation for iteration 1 (Battal)
- Documentations:
    - Readme.md (Poom)
    - Presentation slides iteration 1(Natt/Battal)
    - Ppt video (Natt/Battal)
    - SPPP doc (YiJun)
    - SPPP Risk mgmt (Tash)
    - SDD (Natt)
    - STD (Battal)
    - Progress report (Everyone + Tash)
    - Code (Ananya - compile)
    - Demo video (Natt/Battal)

Meeting 2 Week 2

Date and Time: Sunday, 08 Sept 2024 9:35 PM EST
Place: Virtual Remote Discord
Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom Chantarapornrat, Yujun Liu
Minutes taker: Natasya Liew
Timekeeper: END 10:26 PM EST
Purpose: Finalize Iteration 0

Agenda:

- Wireframe
- Architecture Design Decision

- CI/CD Setup Decision
- Automation Test Framework
- Progress Tracking Tool Decision
- Github Tickets
- User Story Points
- Database for content
- Model tuning
- SDD write up
- Finalize Business logic Proposals
- Finalize Security Design Ideas
- SDD write-up draft
- Finalize Team Name
- Finalize Product Idea
- Update on Design: Architect, Wireframe
- CI/CD Setup done
- Database done
- Model Finalizing
- Finalize Risks
- Finalize Requirements
- Finalize UI/UX Flow
- Finalize Design Pattern

Discussions:

- Team Name: Eagles
- On Progress Tracking Tool:
    - Using Gh issues to create tickets and Using Gh Projects to track progress
- CI/CD
    - Three branches: main, staging, development
    - Use the manual approval as auditing method
    - Turning on notifications
    - Using rollback mechanism for deployment failure
- Automation test framework
    - UI: using Selenium test ng
    - Backend: Rest assure for API
- Presentation schedule:
    - Iteration 0: Lead by the Java team (Ananya and Yijun/AJ)
    - Iteration 1: Natt and Battal
    - Iteration 2: Tash and Poom
    - Iteration 3: Full team
- Architecture:

    - Refer to the diagram
    - Split work division:
        - Springboot and DBMS integration: Ananya & AJ
        - Python AI service + MongoDB/DT Graph: Tash & Poom
        - Front-end: React Redux with Natt
        - QA + CI/CD mgmt: Battal
    - Do work in modular groups: arrange schedule internally; regroup on Sunday, 15th Sept after class.
    - Frontend: Reach Redux + API call using Fetch
    - Iteration 1:
        - Form for the input collection from user
        - mongoDB for courses based on the MSSD program
        - Create rules for the dt using a graph data structure & make
            - Level 0: program(root); Level 1: courses(child); Level 2: prerequisites(child of child)
            - Use points method and if-then statements to select the nodes to store in the variable, ‘class_to_take’
        - Python script for putting together Llama 2 with the mongodb retrieval and function to run the course_selector dt.
        - Postgresql for the user information/user mgmt
        - Springboot backend setup
        - Springbooth unit test
    - Iteration 2:
        - Okta authentication
        - Change the input method for user
- Final dbms decision:
    - Postgresql for user mgmt
    - Mongodb for the AI chatbot feature
- Wireframe:
    - Decide to use the top right buttons, if have time allow the left navigation bar for preview of other chat history.
- On content for documents:
    - If free, add as much to your part or any that you can answer. Others edit onto that.
    - Same rules applies for creating ticket and project progress.

Key Decisions:

- **Team name**
- **Architecture**
- **techstack/framework**
- **Methodology**

- **Best practice**
- **Work division**

Action Items:
- SPPP documents
- Presentation of Iteration 0 and the video
- Progress tracking
- Lab1
- Design and code of decision tree
- MongoDB set up and data pushed
- Initial python script for AI chatbot
- Springboot/Postgresql setup
- Adding tickets to Gh issues/project
- Frontend code

Meeting 1

Date and Time: September 3, 2024 21:25 EST
Place: Remote Virtual Discord
Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom Chantarapornrat, Yujun Liu
Minutes taker: Natasya Liew
Timekeeper: END 21:51 EST
Purpose: Planning and Work Division

Agenda:
- Finalizing Tech Stack
- Finalizing Work Division
- Finalizing Deadline and Meeting Schedules

Discussions:
- Determining project scope (What to do)
    - BU Software Development Course Builder Chatbot using Python (if have time expand in next iteration)
        - Database – MongoDB
        - Model – Llama 2
    - GUI using REACT
        - wireframe
    - CRUD using Java
        - Cache chat history
        - Sharing chat history via email/print

    - CI/CD setup
    - Architecture Design

Key Decisions:

- Front-End
    - Wireframe (Natt)
- Architecture Design (Natt/Ananya?)
- CI/CD Setup (Battal)
- Automation Test Framework (Battal)
- Database (Poom/Tash)
- Model (Poom/Tash)
- Github Tickets (Tash)
- SDD write-up (AJ/Ananya)
- Next Meeting: Sunday, 8th September 20:15 EST
    - Decide on group name
    - Next steps
    - Goal: finish model

Action Items:

- Wireframe
- Architecture Design
- CI/CD Setup
- Github Tickets
- Database for content
- Model tuning
- SDD write up
- List of Requirements Options
- List of Risks Options
- List of Business logic Proposals
- List of Security Design Ideas
- SDD write-up draft

Next Meeting Agenda:

- Finalize Team Name
- Finalize Product Idea
- Update on Design: Architect, Wireframe
- CI/CD Setup done
- Database done
- Model Finalizing
- Finalize Risks
- Finalize Requirements

- Finalize UI/UX Flow
- Finalize Design Pattern