

CS673 Software Engineering
Team 1 : 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 6

Date and Time: Sunday, 29th September 2024 9:30PM EST

Place: Virtual Remote Discord

Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom

Minutes taker: Natasya Liew

Timekeeper: Natasya Liew

Meeting 6

Date and Time: Sunday, 29th September 2024 9:30PM EST

Place: Virtual Remote Discord

Participants: Ananya Singh, Battal Cevik, Natasya Liew, Natthaphon Foithong, Poom
Chantarapornrat, Yu Jun Liu

Minutes taker: Natasya Liew

Timekeeper: Natasya Liew

Purpose:

- Update on week progress
- Targets for the Upcoming Week

Agenda:

- Update on week progress:
 - Python AI service
 - SB Backend
 - AJ's Unit Testing, Linting/Formatting
 - Front-End
 - CI/CD
 - QA/Testing
- Targets for the Upcoming Week:
 - Integration

- Frontend Delivery
- Testing Delivery
- Finish Configuring/Standardizing Code
- Documentation
- What still needs to be done

Discussions:

1. Updates

a. Python AI Service

- i. Integrated the Prompt Library JSON file, adding more than 600 prompt entries for the model to utilize in Retrieval-Augmented Generation (RAG).
- ii. Enabled function calls at any time during the chat process for the user.
- iii. Completed all required functionalities from the Python AI service section.
- iv. Need to apply the flexibility/design pattern as requested by Prof. YuTing if time permits; focus on the front end first, then Tash will fix it in iteration 3 (Deadline: Oct 15).

b. SB Backend

- i. Integrated the Python AI service with Spring Boot (SB).
- ii. Completed the Authentication design flow.
- iii. This week's plan is to finalize the Authentication and Login Page features/functions (Deadline: Oct 6).
- iv. Iteration 3 will focus on security enhancements (Deadline: Oct 15).

c. Database

- i. Need to update existing entries to fit the application functions' formatting (Deadline: Oct 15).
- ii. Testing integration with Spring Boot and the Python AI service is pending.
- iii. Waiting for AWS deployment to proceed.

d. Authentication Setup

- i. Design is completed; planning to finish by the end of the week.

e. CI/CD

- i. Linting/Formatting packages did not work; this will be done manually (Deadline pushed back to Oct 15, with focus on frontend first).
- ii. Making the GitHub Action CI requirements slightly more lenient (Deadline: ASAP).
- iii. Need to decide how to share the `.env` file with the facilitator or at least the required API keys.

f. QA/Testing

- i. EC2 key was lost; efforts are underway to find/recreate the instance and get it

fixed ASAP for AWS deployment (Deadline: Oct 15).

ii. Created a test code folder to aid in Testing efforts.

iii. Goal: Add testing code for every feature in the program (Deadline: Oct 15).

g. Front-End

i. Components have been created, but integration is not yet complete.

ii. Natt needs assistance with the integration tasks.

1. Tash will support Forms integration and the download chat feature (Deadlines: Oct 1 for forms and Oct 6 for download feature).

2. Ananya will take over the login and authentication page as previously agreed (Deadline: Oct 6).

3. Poom and AJ will manage the Chatbot integration, static Chat History page, and feature development for profile picture options in the modal (Deadline: Oct 6).

h. Accessories (Linting, Formatting, and Commenting)

i. Focus will be pushed back; priority is on frontend and testing first (Deadline: Oct 6).

i. Management (JIRA, Progress, and More)

i. Update JIRA with the latest progress (Deadline: Oct 2).

j. Documentation

i. Update the Software Design Document (SDD) (Deadline: Oct 2).

ii. Add more details to the Software Test Document (STD) as necessary (Deadline: Oct 2).

iii. Await comments on the iteration and update documents accordingly (Deadline: Oct 6).

iv. Prepare PowerPoint slides pending completion of the rest of the documentation (Deadline: Oct 6).

v. Compile demo materials (Deadline: Oct 6).

Key Decisions:

1. Push back deadlines for other parts and focus on completing the front end.
2. Teams (SB, CI/CD, Python AI) to assist with the front end and aim for a finished product by Friday, integrating with the backend by the end of the weekend (or during the next meeting).
3. Next meeting scheduled for Sunday, Oct 6, 9:30 PM EST, after class.

Action Items:

1. AJ to update the architecture and database diagrams to include the Authentication in the SDD.
2. Tash to update the images for the Mockup designs in the SDD.
3. Remain alert for Iteration 1 comments to potentially update the SPPP, STD, SPPP Risk Management, and Presentation Slides.
4. Tash to update presentation slides and create a video.
5. Battal to pass the Testing video to Poom.
6. Poom to create the demo video and compile the code.
7. Ananya to update the [Readme.md](#).
8. AJ to fix inputs for existing users in the database and ensure they match the server/program.
9. AJ to add Unit Test examples for key features into the STD documentation.
10. Tash to annotate Python AI service, SB, and React files as part of accessories for Iteration 3.
11. Tash to include a test folder for different unit tests (TDD implementation).
12. Battal to deploy on AWS.
13. Battal to review the Python AI service code for readability and potential optimization.
14. Tash to support Forms integration and the download chat feature (Deadlines: Oct 1 for forms and Oct 6 for download feature).
15. Ananya to take charge of the login and authentication page (Deadline: Oct 6).
16. Poom and AJ to oversee the Chatbot integration, static Chat History page, and profile picture modal feature (Deadline: Oct 6).
17. Battal and AJ to populate the testing implementation.
18. Tash to adjust the course builder to be less static after the frontend is completed.

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
 - a. Python AI service

- b. Springboot
- c. Postgresql
- d. Integration backend
- e. Frontend
- f. Integration backend to frontend
- g. QA/testing
- h. Docker/AWS deployment
- 2. Setting deadlines
- 3. Documentation needs (what do we need to add?)
- 4. Other comments
 - a. Linting/Formatting

Discussions:

- 1. Reiterate tasks in each micro team
 - a. Python AI service(Poom/Tash)
 - i. **Integrate API -> SB backend (to have shuttle team call between python and sb team wed, 25th sept 8:30pm)**
 - ii. Prompt lib JSON file creation
 - 1. Course waiver information
 - 2. Specialized query based in F-1/J-1 international student requirement
 - 3. Course Builder updates in real-time
 - iii. Course builder to be able to be called repeatedly based on conversation listener by the Langchain Agent
 - iv. Conversation scraper by Langchain Agent; to identify keywords for function calls or to store keywords as input parameters.
 - v. Integrate the Prompt lib file to the Chatbot implementation
 - vi. Unit tests
 - b. Springboot(Ananya)
 - i. Request and response handling from front end UI
 - 1. User API(get/post)
 - a. **New User**
 - b. **Get User**
 - 2. **Okta integration**
 - 3. **Call to Chatbot Implementation**
 - ii. **Unit tests**
 - iii. **Security Layer**
 - c. Postgresql (Nothing else to do for iteration 2)
 - i. Script is done, just need to deploy to AWS in iteration 3
 - d. Frontend(Natt)

- i. **Log in site (passed to Ananya)**
 - 1. Log in_btn(okta)
 - ii. **Form_submit_btn (create new user) -> collect input parameters for course builder implementation**
 - iii. **Functionality Chat UI**
 - 1. Save chat_btn (convert chat history json file to PDF format; use file saver dependencies)
 - 2. Log out_btn(okta)
 - 3. New chat_btn
 - 4. Integration to backend chatbot implementation (postman)
 - iv. Chat History Page
- e. QA/Testing(Battal)
 - i. Protecting Branch
 - 1. Everyone should create future branches for the dev
 - 2. dev/stage/main(production)
 - 3. tests: integration/functional
 - 4. Applying Automation Framework BDD
 - ii. Docker: to fix the build error
 - iii. Setting up AWS deployment (at Iteration3)
- 2. Setting deadlines
 - a. Python AI service
 - i. All implementations to be finished at the end of this week (sunday)
 - b. Springboot
 - i. 09/25 with Poom+Tash, integration SB to the AI service backend
 - ii. 09/28 to finish the Okta integration with login/signup page front end
 - c. Postgresql
 - i. Postgresql is basically set up for this iteration (n/a)
 - d. Integration backend
 - i. Friday(09/27); from the form page frontend to the ai service backend
 - e. Frontend
 - i. Friday(09/27) for the form page front end
 - ii. Integration API (09/30) for the postman to call the ai service implementation
 - iii. Functions buttons [log out button, save chat/convert to pdf button, and new chat button] (10/03)
 - f. QA/testing
 - i. AJ to help unit testing(functional testing might help as well)
 - ii. Battal to primary executor/supervise the QA Testing and integration testing

- g. Docker/AWS deployment
 - i. AWS is going to be started at iteration 3
- 3. Documentation needs (what do we need to add?)
 - a. README-Ananya
 - b. SPPP risk mgmt docs-Poom
 - c. SDD-Ananya to add his revision update
 - d. SDD - Natt to add changes in UI section
 - e. Demo by Poom (additional testing side from Battal)
 - f. PPT slides and video by Tash
- 4. Other comments
 - a. Todo for AJ
 - i. AJ to help out Java, Python (autopep8), and Reach linting/formatting synchronization.
 - ii. And to add comments and file summary top of code file for easy readability
 - iii. Adding unit tests for missing sections
 - b. Communication
 - i. Poom and Ananya's meeting at 09/25 to discuss integration of API stuff
 - ii. Natt to message teammates by Friday if need support
 - c. Testing
 - i. Unit level testing is for development, which is not included in the high level testing(**functional testing**)

Key Decisions:

1. Natt to focus frontend on the Form Page first for creating new user (urgent for Python AI service team) finish by friday this week
2. Pass frontend Login/Signup page to Ananya since he will do Okta (finish by sunday this week)
3. Natt: Start doing videos and presentation by next weekend (so functionalities of frontend to be done by next thursday)
4. Natt: Chat history UI to be done by saturday
5. Natt: Integrate Chatbot UI to postman latest by tuesday
6. Prompt library json to be finished by Friday, Tash to pass Poom draft integration code with the json file.
7. Poom to test Tash's integration code for the AI chatbot (by sunday)
8. Poom/Tash: code for function call, add langchain agents to call function call/save input to variable (by friday)
9. AJ to support in linting, formatting, and unit testing
10. Battal to start BDD framework and continue maintaining CI/CD
11. Next meeting: Sunday, 29th September 9:30 PM EST
12. If Natt/Battal need support, other devs to jump and help once their part is done

by this week.

13. Ananya to add the security layer push to iteration 3

Action Items:

1. Backend and frontend integration should be discussed this week with Ananya and Poom+Tash
2. Battal to help record while testing to share for Iteration 2 Demo.
3. AJ's figuring out how to automate the fixing format feature for everyone to pass the CI workflow run
4. Natt to finish Create new User page asap
5. Poom+Tash finish Chatbot implementation by this week (Prompt lib, Langchain agents implementation)
6. Natt to finish the Postman integration for the Chatbot Implementation
7. Ananya to set up Okta and finish the Login/Signup page
8. Natt (and others): Chat history UI, Chat sidebar functionality UI
9. Readme.md: Ananya to update
10. SDD: add UI revision (Natt) and SB add-ons (Ananya)
11. SPPP risk management: Poom
12. Ppt slides: Tash
13. Demo: Poom (with Battal on the QA/Testing)
14. PPT vid: Tash

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 on the Prompt library for next iteration before supporting front-end or SB team, but definitely the documentations
- Tash to update the JIRA

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
 - Front 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
 - Mongoddb 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