Sri Lanka Institute of Information Technology

B.Sc (Hons) Information Technology Specialized in Software Engineering

Research Project - IT4010



Maduwantha K.A.I – IT20069186

LOG-BOOK

DECLARATION

I declare that this is my own work, and this proposal does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or Institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Name	Student ID	Signature
Maduwantha K.A.I	IT20069186	But In

Signature of the Supervisor	Date
(Dr. Darshana Kasthurirathna)	
	30/10/2023
Signature of the Co-Supervisor	Date
(Dr. Samantha Rajapaksha)	
	30/10/2023

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1. MONTHLY PROGRESS

December (2022)	
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Started to find a group and a supervisor and co supervisor. Research topic discussion with Dr. Darshana Kasturirathna. (Initial pitch) Introduced team to supervisor. Discussion of topics with supervisor. Supervisor requested in detail on the selected topic at the next session. Prepared a draft proposal report regarding the research idea. Created a WhatsApp group including supervisor. Finding a co supervisor. Discussing the research topics with the co-supervisor. Prepared the presentation. Referred necessary resources. Initial presentation to the supervisor Critically analyzed the pros and cons of the topic and the presentation. Referred some research papers on similar field to get an idea on the context and the technologies used
Week 02	 Referred to some research papers on similar field to get an idea on the context and the technologies used.
Week 03	Referring about some more topics with our supervisor.
Week 04	Research Project weekly meeting and presentation.

	January (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	We presented our research questions, main research objectives, sub objectives and component division. Initial meeting with external supervisor Dr. (Ms.)Janaki, (Dean Gampaha Wikramarachchi Ayurvedic university of Sri Lanka) Worked on further studies of the selected topics. • Divided the components among four team members. • Worked on further studies of symptoms and their design patterns. • A background study was done about cutting-edge technologies that can use for solving our problems.
Week 02	 Designed initial High Level Architectural Diagram for a selected topic with our supervisor. Designed ER Diagram RP group meeting. RP group meeting where we discussed progress up to now, progress of the task breakdown structure, topic assessment form and tentative timeline. Discussed existing problems with supervisor. High Level Architectural Diagram redesigned.
Week 03	 High Level Architectural Diagram redesigned. Meeting our external co supervisor for doubt clearance discussion.

Week 04	 Group registrations were submitted. Updated supervisor on the progress of the topic evaluation. Worked on the topic assessment form. Supervisor shared a folder to upload our topic assessment form.

	February (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	Worked on the topic assessment form
Week 02	Worked on the Gannt Chart
Week 03	 Feedback was given by the supervisor regarding the Gannt Chart Comments were given by the supervisor to the topic assessment form. Supervisor group meeting to discuss the feedback given. Refined the topic assessment form as per the comments given.
Week 04	 Refined the topic assessment form as per the comments given. Had a discussion with my co-supervisor to clarify some concerns regarding individual scopes. Final confirmation was given to the topic assessment form by the supervisor. Researched about existing systems and lit review.

March (2023)	
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Proposal Reports Drafts are started. Progress of the presentation practice.
Week 02	 Updated supervisor regarding the comments given for the topic assessment form by the panelists. Had a meeting with supervisor. Working on the proposal reports.
Week 03	Updated supervisor regarding the progress of the presentation.
Week 04	 Submitted the project proposal document to CDAP cloud drive. Submitted the approved topic assessment form to CDAP cloud drive. Uploaded draft proposals into the cloud drive.

	April (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	Proposal presentation practice session with group.
Week 02	Proposal presentationRP group meeting
Week 03	 Submitted the proposal presentation to CDAP cloud drive. Field visit to Gampaha Wikramarachchi. Sent all the proposal reports to supervisor to get the Turnitin report.
Week 04	 Submitted the individual project proposals to CDAP cloud drive. Updated supervisor regarding the progress of the implementations. Model training.

	May (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	Model training.
Week 02	Physical meeting with supervisor.
Week 03	 Second field visit to Gampaha Wickramarachchi. Collected datasets for related components. Discussions about progress and future works. Proposal Markings
Week 04	 Submitted MS teams and GITLAB details to the CDAP cloud drive. Third field visit to Gampaha Wikramarachchi to collect datasets. Updated supervisor regarding the progress of individual components.

	June (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Trained a model using transfer learning for the first time (Testing purpose). Tried with CNN and RASA technique. Test data augmentation using Google Collab separately. Tried on the fly augmentation. But I realized that's not going to work for my scenario. Then I moved to other augmentation techniques. Market Research: Conduct market research and gather insights into the target audience. Use Case Selection: Choose specific use cases and chatbot functionalities. First, I tried out test data augmentation for single class images. Test data augmentation for single class using Google Colab separately. Meet with the co-supervisor to discuss the progress of the research component. We were guided to work with the Overleaf application, which can be used to write research papers, and we were asked to start work on individual research papers. Meet with the group members to discuss the overall implementation's service architecture, user interfaces, and user experience. Meet with the co-supervisor to discuss the progress of the research component and research paper writing progress. Meet with the co-supervisor to discuss the progress of the research component and research paper writing progress. Meet with the group members to finalize the overall implementation's service architecture, user interfaces, and user experience.

Week 03	 The gathered historical chat logs and relevant content. Data Annotation: Start annotating and labeling training data. Dialogue Design: Design conversation flows and interactions. Training Data Creation: Create initial training datasets for NLU and dialogue management.
Week 04	 Tried out image pre-processing technique before training a new model. Trained a model after applying preprocessing technique. Tried out another augmentation method which was augmented class by class. and saved it in local storage. Preprocessed data for symptoms. Preprocessed data without using normalization. Meet with the group members to finalize the overall implementation of service architecture, user interfaces, and user experience.

	July (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Bot Development: Begin creating the chatbot using Rasa and define intents and entities. NLU Model Training: Train the NLU model using annotated data. Dialogue Management: Develop initial dialogue management rules and policies. Prototyping: Create a basic chatbot prototype for testing. April - Testing and Refinement
Week 02	 Data Augmentation: Enhance training data with additional examples. Training and Fine-Tuning: Train the chatbot on a larger dataset and fine-tune NLU and dialogue management. Unit Testing: Begin testing individual components, such as intents, entities, and actions. User Testing: Conduct user testing sessions to gather feedback on usability.
Week 03	 Update auto machine learning models- testing Meet with the group members to discuss finished common implementations, which are user service and mobile app home page, and fix some raised issues.
Week 04	 Update auto machine learning models- testing Added a feature map to visualize the feature extraction.

Week 05	 Mobile frontend designing initiation. Plot a confusion matrix.
	 Created a classification report Meet with the co-supervisor to discuss the progress of the research component and research
	 paper writing progress. Meet with the group members to discuss the implementation progress of each component.

	August (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Meet with the co-supervisor to discuss the progress of the research component and research paper writing progress. Meet with the group members to finalize and submit one of the written research papers for the ICAC conference. Writing Research paper in Overleaf
Week 02	 Hyperparameter tunning and retrain the models. Bot Enhancements: Continuously develop and enhance chatbot capabilities. Integration: Integrate the chatbot with selected channels or platforms. Usability Improvements: Make usability and design improvements based on user feedback. Error Handling: Implement better error handling and recovery strategies. June - User Acceptance Testing and Deployment
Week 03	 Hyperparameter tunning and retrain the models. Meet with the supervisor physically to discuss the progress of the research component and combined research paper.

Week 04	 We have received an e-mail from our co-supervisor to combine our research components and write a single research paper. We started working on it. Meet with the co-supervisor physically to discuss the progress. of combined and individual research papers.
Week 05	 User Acceptance Testing (UAT): Conduct comprehensive UAT with real users. Performance Optimization: Address performance issues and optimize response times. Deployment: Deploy the chatbot on selected platforms and ensure accessibility. Scaling: Plan for scaling the chatbot to additional channels or use cases. Feedbacks were given by the supervisor.

	September (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Started working on the research paper. PP2 preparations Analytics Integration: Implement analytics tools to monitor interactions and performance. User Training: Train the chatbot to handle a broader range of user inputs. Content Updates: Regularly update chatbot content, FAQs, and responses based on feedback. Security Review: Review and enhance security measures to protect user data and privacy. Continuous Improvement
Week 02	 PP2 preparations Meet with the co-supervisor to give an update about the project's progress. Continuous Testing: Conduct ongoing testing and performance monitoring. Response Refinement: Continuously refine chatbot responses to improve user satisfaction. User Satisfaction Surveys: Collect user satisfaction feedback and make enhancements accordingly. Performance Monitoring: Continuously monitor chatbot performance and user interactions.
Week 03	 Meet with the co-supervisor to give an update about the project's progress. Meet with the co-supervisor to discuss the final presentation. We were asked to make some improvements to the presentation slides

Week 04	 Meet with the co-supervisor to give an update about the project's progress. Submitted the final research paper to HINDAWI 2023 with revisions. Submitted the final research paper to CDAP cloud drive. PP2 and research thesis discussion with supervisor.
	PP2 and research thesis discussion with supervisor.

	October (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Meet with the co-supervisor to discuss the feedback on the submitted paper to Hindawi Applied Computational Intelligence and Soft Computing journal. We were given guidance to work on the requested changes. Submitted a draft research paper to co-supervisor for evaluations. RP meeting to discuss feedback on the research paper. Meet with the co-supervisor to give an update about the project's progress. Meet with the co-supervisor to discuss the final presentation. We were asked to make some improvements to the presentation slides. Documentation and Knowledge Transfer Documentation: Create comprehensive documentation for the chatbot, including architecture and maintenance procedures. Knowledge Transfer: Ensure knowledge transfer within the team and plan for ongoing maintenance and support. Ongoing Maintenance and Enhancements Continuous Improvements: Continue to monitor and enhance the chatbot's performance, responses, and functionality based on user feedback and analytics.
Week 02	 Meet with the co-supervisor to give an update on the progress of requested changes of the submitted journal paper. Meet with co-supervisor to revise and again submit the paper with requested changes to Hindawi Applied Computational Intelligence and Soft Computing journal.

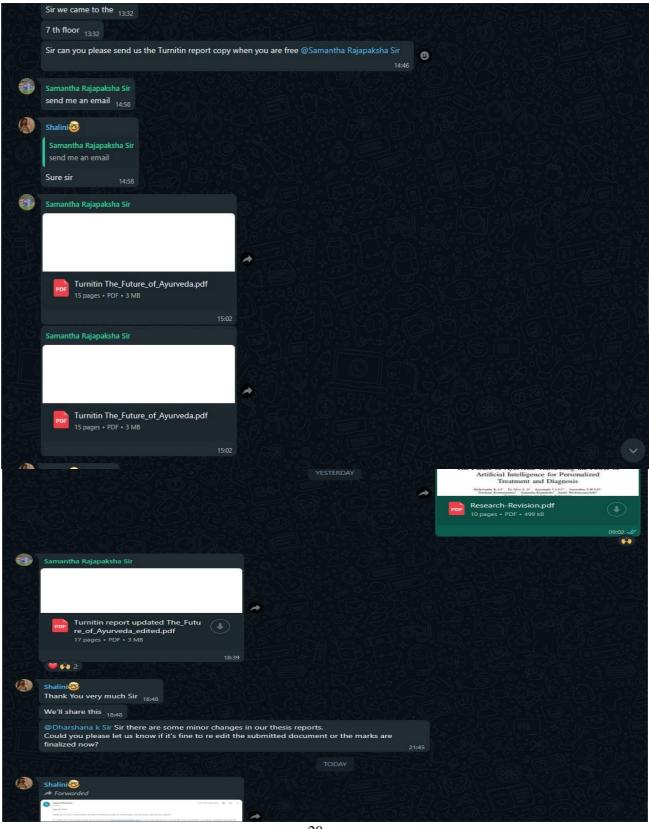
Week 03	 Meet with the co-supervisor to give an update about the project's progress. Final Presentation Preparations. Post-Launch Evaluation: Review the chatbot's performance since deployment, focusing on user interactions and feedback. Bug Fixing: Address any critical issues or bugs reported by users. Analytics Review: Analyze data collected from user interactions and refine the chatbot's understanding of user intents. User Training: Continue training the chatbot with new data and queries to enhance its capabilities.
	 Final Presentation Preparations.
	 Meet with the co-supervisor to give an update about the project's progress. Testing the Model
	Deployment of the 4 components. - Ul and Francisch development - The section of the 4 components.
	UI and Frontend development.
	Backend implementation Finalization.
Week 04	Final Presentation Preparations.
	 Meet with the co-supervisor to give an update about the project's progress. Testing the Model
	 Deployment of the 4 components.
	UI and Frontend development.
	Backend implementation Finalization.
	Testing the model accuracies.
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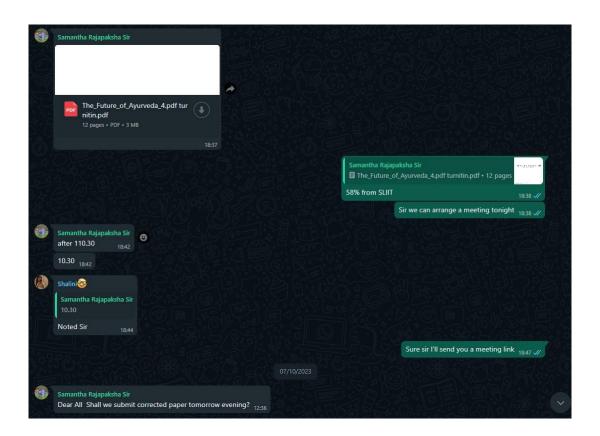
	November (2023)
DATE	DETAILS AND NOTES OF WORK CARRIED OUT, PROBLEMS ENCOUNTERED AND HOW SOLVED ETC.
Week 01	 Final Presentations Got feedback. Uploaded the Presentations to the CDAP. Meetings with Co supervisor Logbook Submission. Poster submission Website Submission ICAC presentations

2. ALL REPOSITORIES

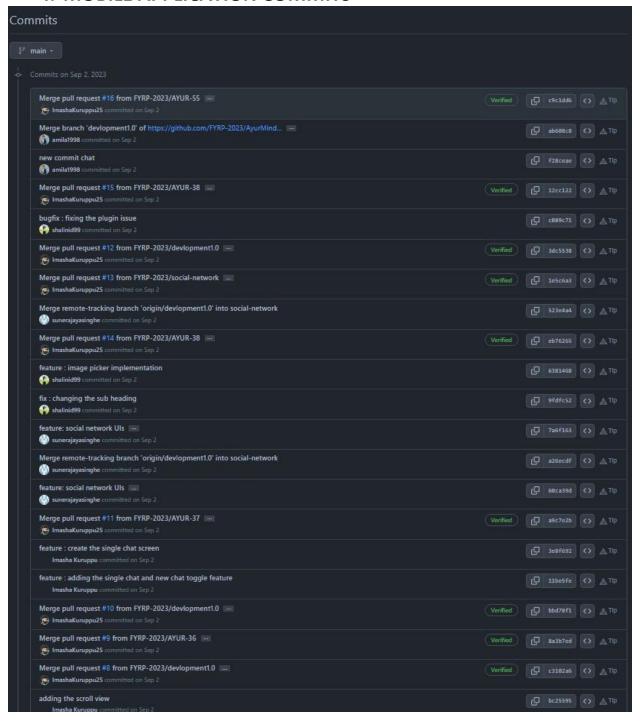


3. SCREENSHOTS OF THE SUPERVISOR AND CO SUPERVISOR GROUP MESSAGES

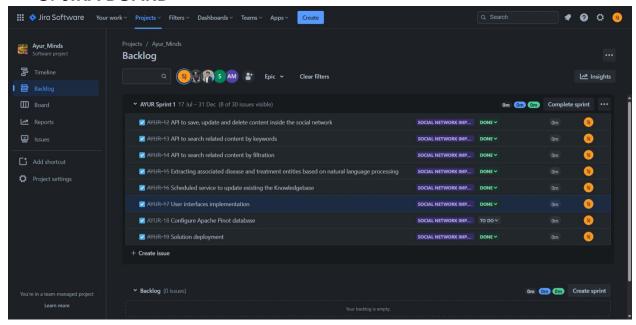


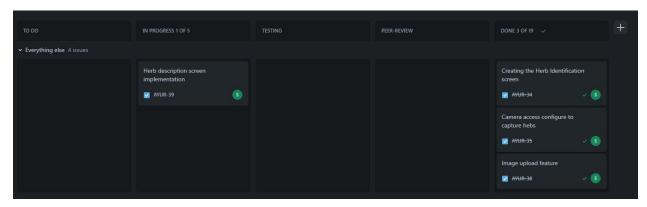


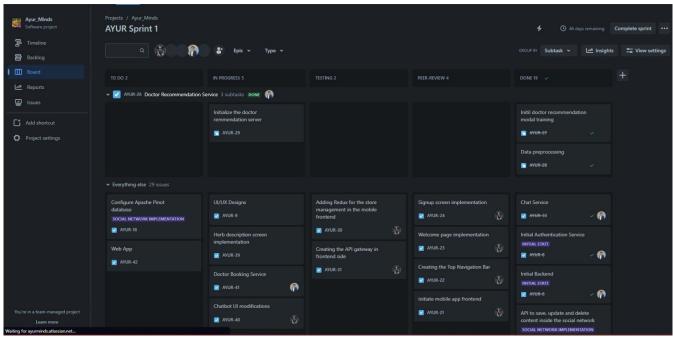
4. MOBILE APPLICATION COMMITS

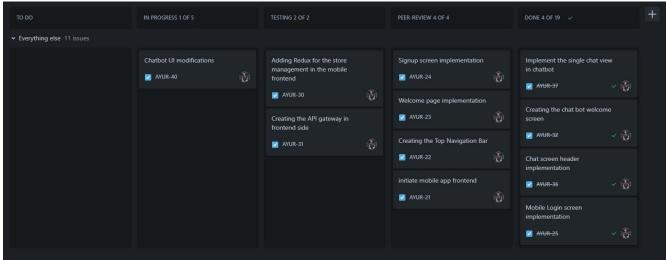


5. JIRA BOARD









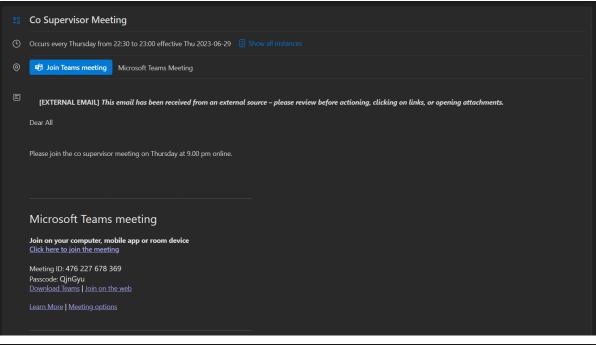
6. GANTT CHART

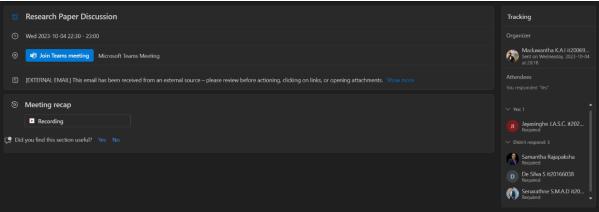
	February	March	April	May	June	July	August	September	October
API to save, update and delete content inside the social network									
API to search related content by keywords									
API to search related content by filtration									
Solution to extract related diseases and entities along with their relationships									
Scheduled service to update the existing Knowledge Base									
User interfaces implementation									
Solution deployment									

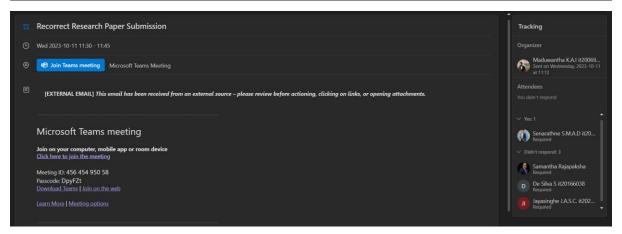
7. MEETINGS AND CONVERSATIONS

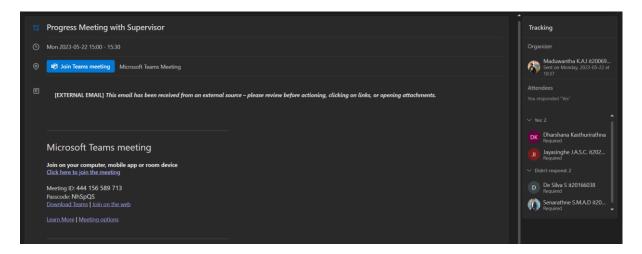
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	Samantha Rajapaksha Pre-Conference works 7/11/202 Dear Students Please joi Inbox	
	Samantha Rajapaksha Meeting Attendance 7/8/202 Dear Students Please ref	3
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> 🚯	Samantha Rajapaksha Co Supervisor Meeting [EXTERNAL EMAIL] This Inbox Occurs every Th No conflicts RSVP	
> 🚯	Samantha Rajapaksha Project Meeting 6/6/202 Dear Students This week' Inbox	
> 🚯	Samantha Rajapaksha Research Project Logb 5/29/202 Dear Students Please co Inbox	-
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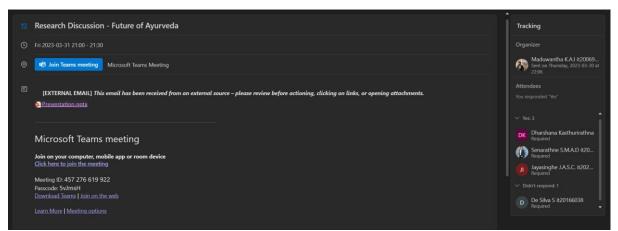
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	Noted. You can go ahead with this one. Dharshan Inbo
DK	Dharshana Kasthurirathna
DK	Ethical Clearance Form for Research 6/1/202
	Please find the attached. Dharshana Kasthurirathn
DK	Dharshana Kasthurirathna
DK	Progress Meeting with Supervisor 5/22/202
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DV	Dharshana Kasthurirathna
DK	Research Discussion - Future of Ayurveda 3/30/202
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> DK	Research discussion 3/30/202
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> DK	Request for an Email Confirmation for Research 3/13/202
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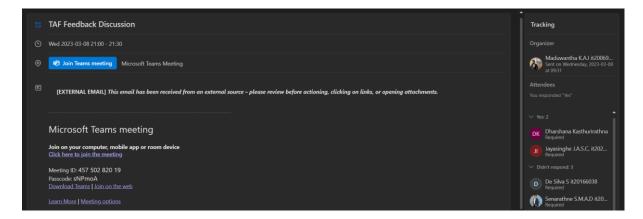


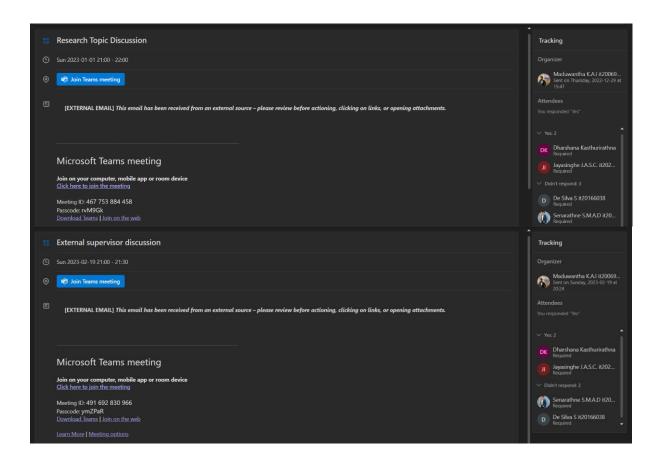


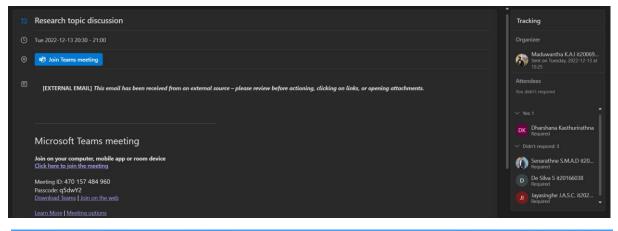


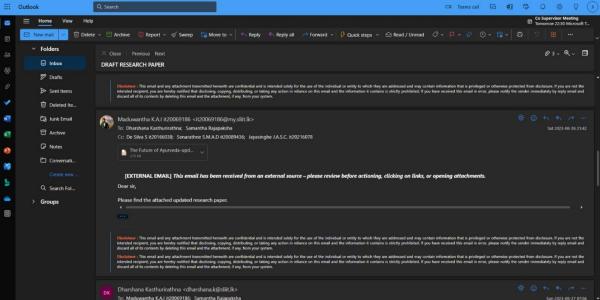


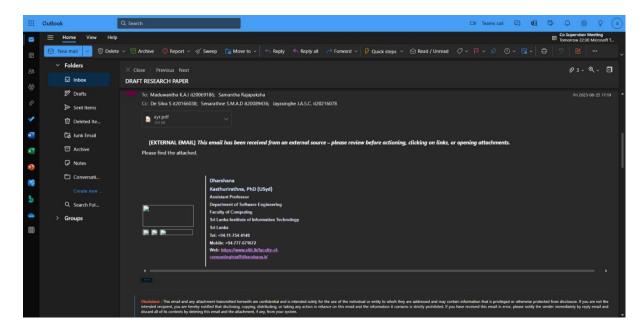


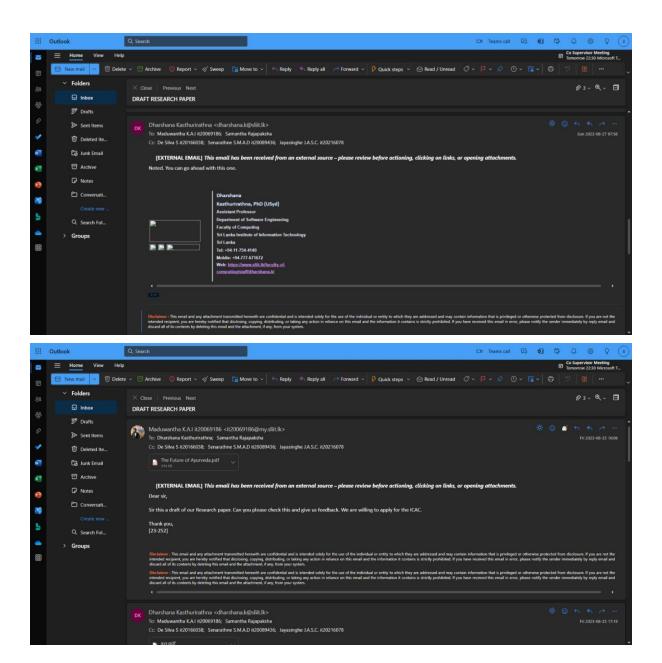




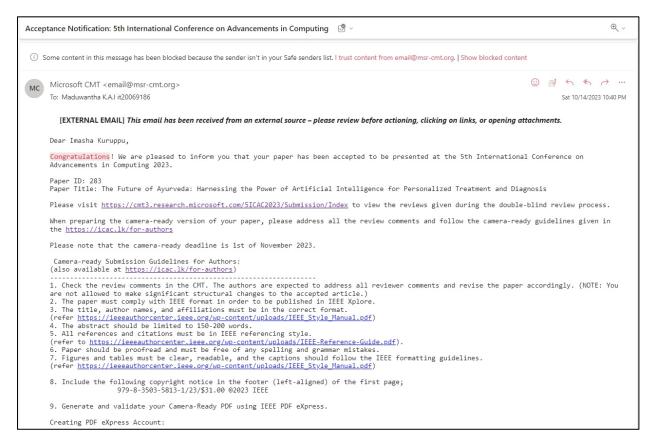


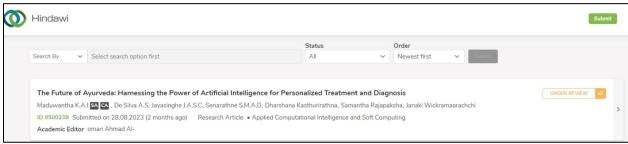






8. RESEARCH PAPER ACCEPTANCE LETTERS

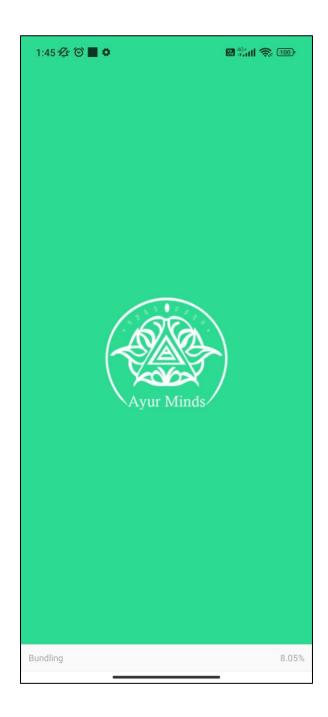


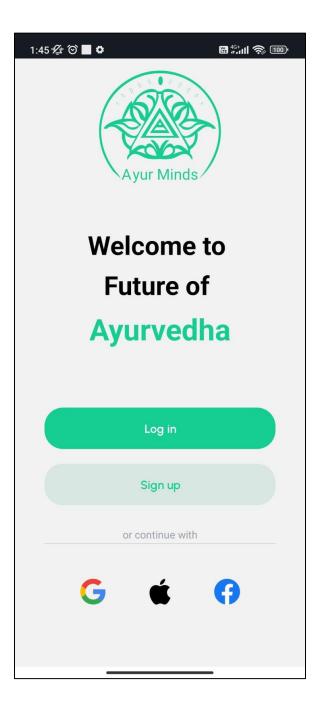


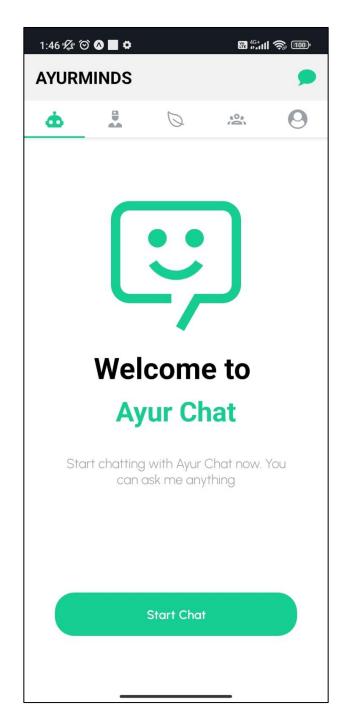
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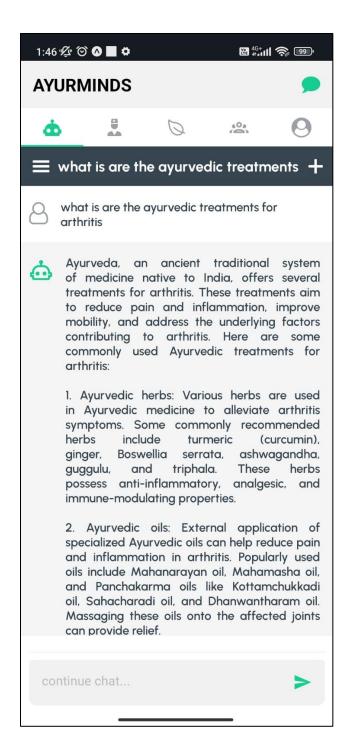
9. MOBILE UI

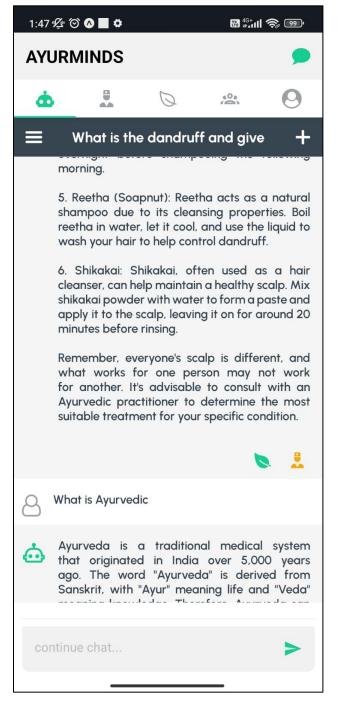


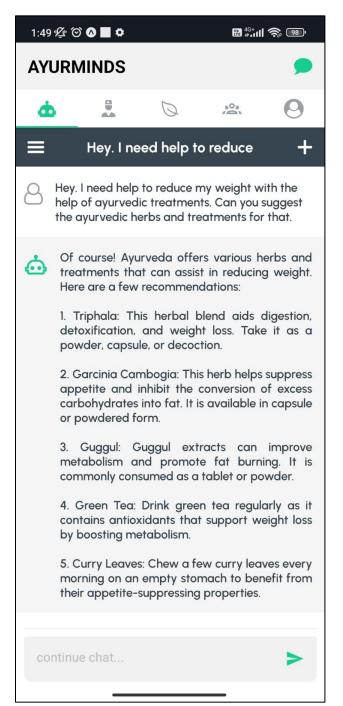


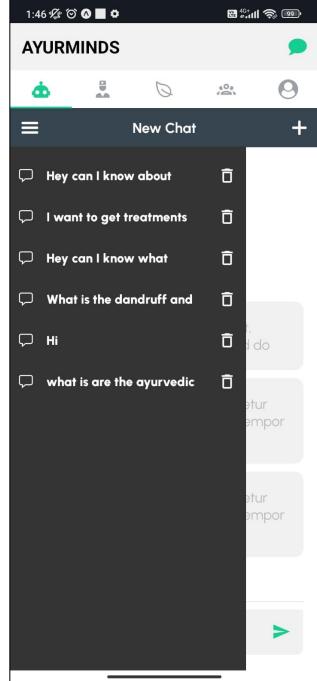


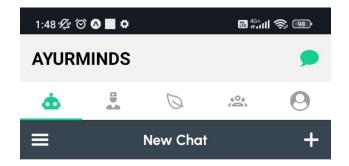












Hey. I need help to reduce my weight with the help of ayurvedic treatments. Can you suggest the ayurvedic herbs and treatments for that.

