

**BLOCKCHAIN-BASED CRIMINAL INFORMATION
MANAGEMENT SYSTEM IN SRI LANKA**

Project ID: 23 -270

Status Document - II

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1. Microsoft Teams [Research Group]

This section holds the details of the research group that was monitored and recorded on the Microsoft Team platform.

1.1. Team Members

The screenshot shows the Microsoft Teams 'Members' page for a team named 'Final year Research project 2023'. The page includes a search bar and an 'Add member' button. It lists 1 owner and 3 members/guests. The members listed are:

Name	Title	Location	Tags	Role
Brahanawawardhan B. it20150...				Owner
Wijayarathne S. N it20171438				Member
Thushitharan .M it19983370				Member
Ahmed M.N.H it20157814				Member

Figure 01: Final Year Research Team Member

1.2. Microsoft Planner

1.2.1. Analytics

The screenshot shows the Microsoft Teams 'Analytics' page for the same team. The page displays various engagement metrics and user statistics. The summary section shows:

Summary	Engagement
4 Users	59 Posts
9 Apps	207 Replies
18 Meetings	18 Mentions
	56 Reactions

The 'Active users' section shows 4 active users and 0 inactive users. The 'Role' section shows 4 owners + members and 0 guests.

Figure 02: Microsoft Teams Analytics [Group]

1.2.2. Task Board

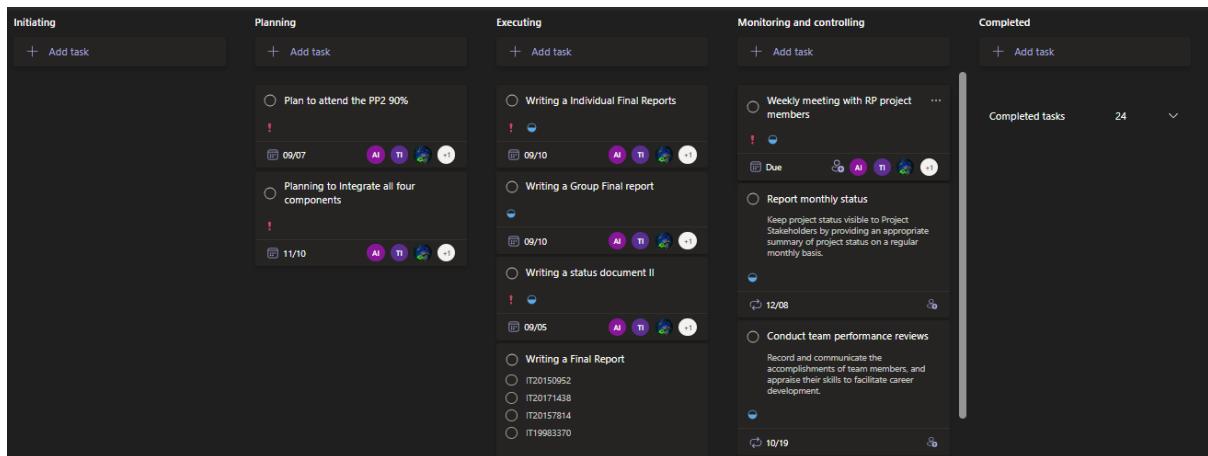


Figure 03: Final Year Research Task Board [Group]

1.2.3. Task Chart

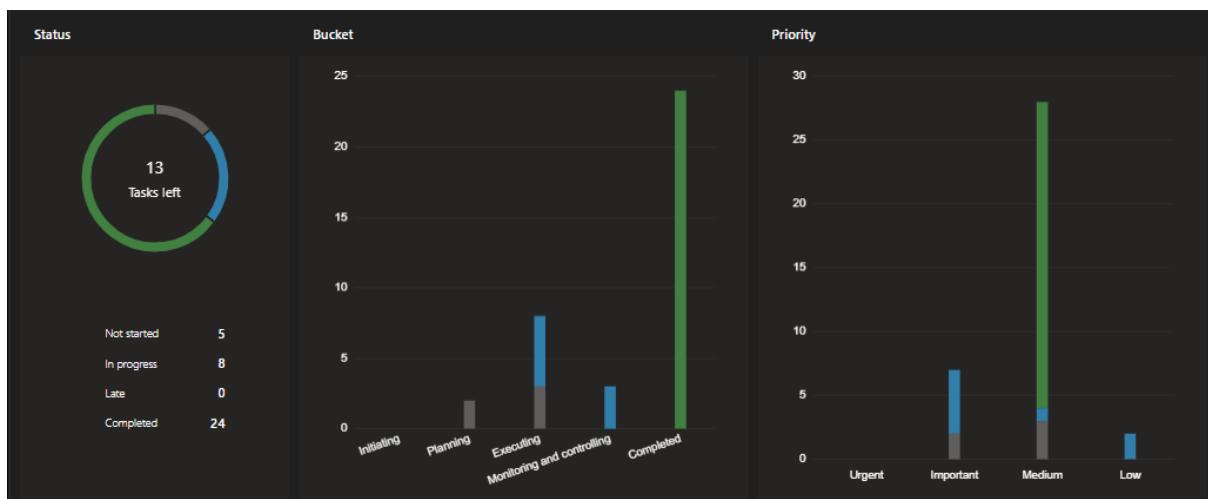


Figure 04: Final Year Research Task Chart[Group]

1.3. Meetings and Groups

1.3.1. TeamMeetings

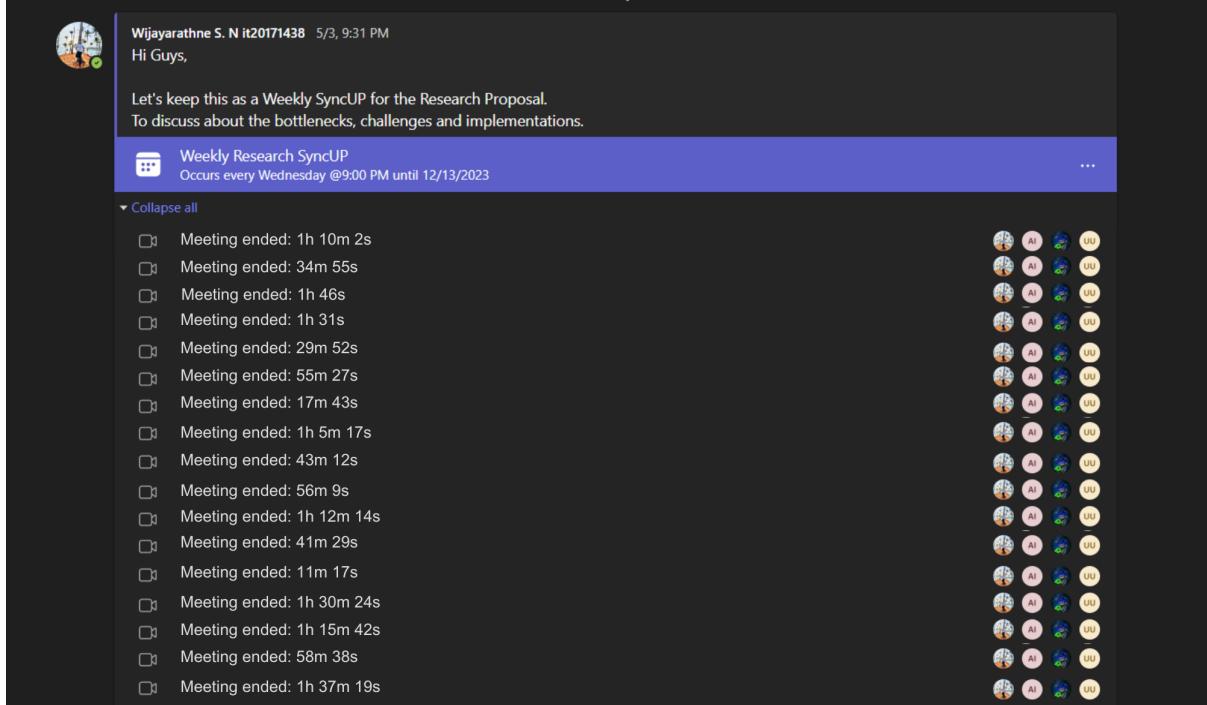


Figure 05: Final Year Research Team Meetings

1.3.2. Meeting Invitations

A screenshot of an Outlook inbox. The search bar contains "kanishka.y@slil.lk". On the left, a sidebar shows "Results" and "Sent Items". The main pane displays several email messages: 1) An email from Brahanawawardhan B. it20150952 at 2/7/2023 8:40 PM with subject "meeting link" and a link to https://teams.microsoft.com/l/meetup-join/19%3ameeting_NDY2MDYyZTE1NTBiYS00MTYxLWI4NWU2ZmE1N2U5YzFHYzNj%40thread.v2/0?context=%7b%22Tid%22%3a%22bd7b1ded-1501-45d2-9e2d-070b865e616%22%2c%22Oid%22%3a%22007a7666-503f-4a9b-ac31-4b72072e33dd%22%7d. 2) An email from Kanishka Yapa at 2/7/2023 8:40 PM with subject "(no subject)" and a link to https://teams.microsoft.com/l/meetup-join/19%. 3) An email from Kanishka Yapa at 2/7/2023 8:40 PM with subject "meeting link" and a link to https://teams.microsoft.com/l/meetup-join/19%. 4) An email from Kanishka Yapa at 2/7/2023 8:40 PM with subject "(no subject)" and a link to https://teams.microsoft.com/l/meetup-join/19%. 5) An email from Kanishka Yapa, Wijayarathne S. N it20171438, at 12/23/2022 8:40 PM with subject "Confirmation for supervision to RP 2023" and a message: "Dear sir, Could you please find the attachment".

Figure 06: Inviting Supervisors for meetings

1.3.3. Meeting with Supervisors

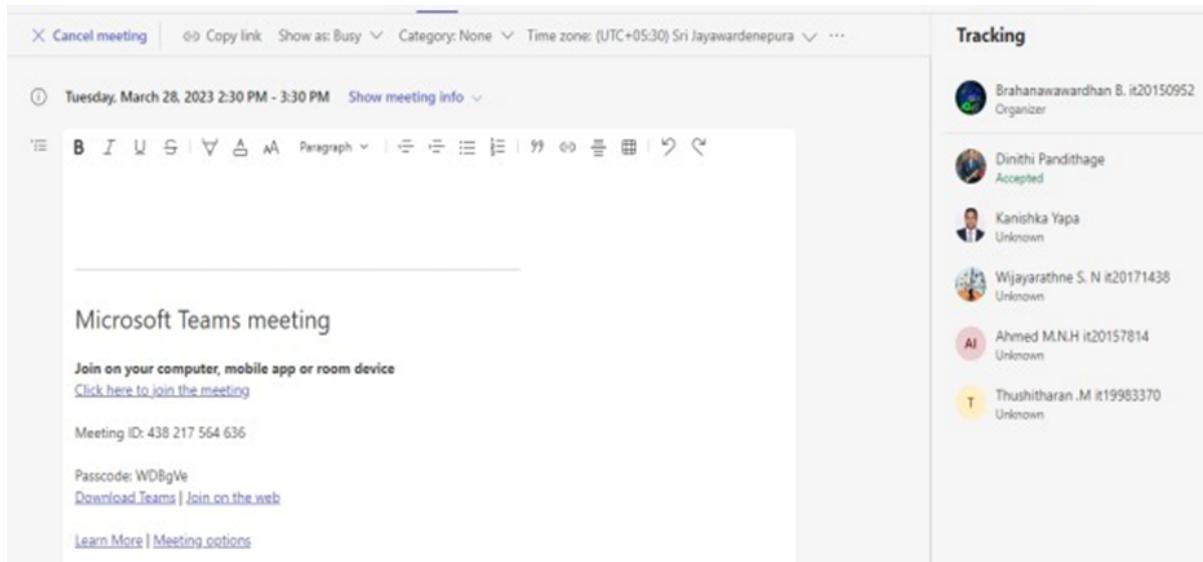


Figure 07: Meetings with Supervisor and Co-supervisor

1.3.4. WhatsApp Group with Supervisor and Co-Supervisor

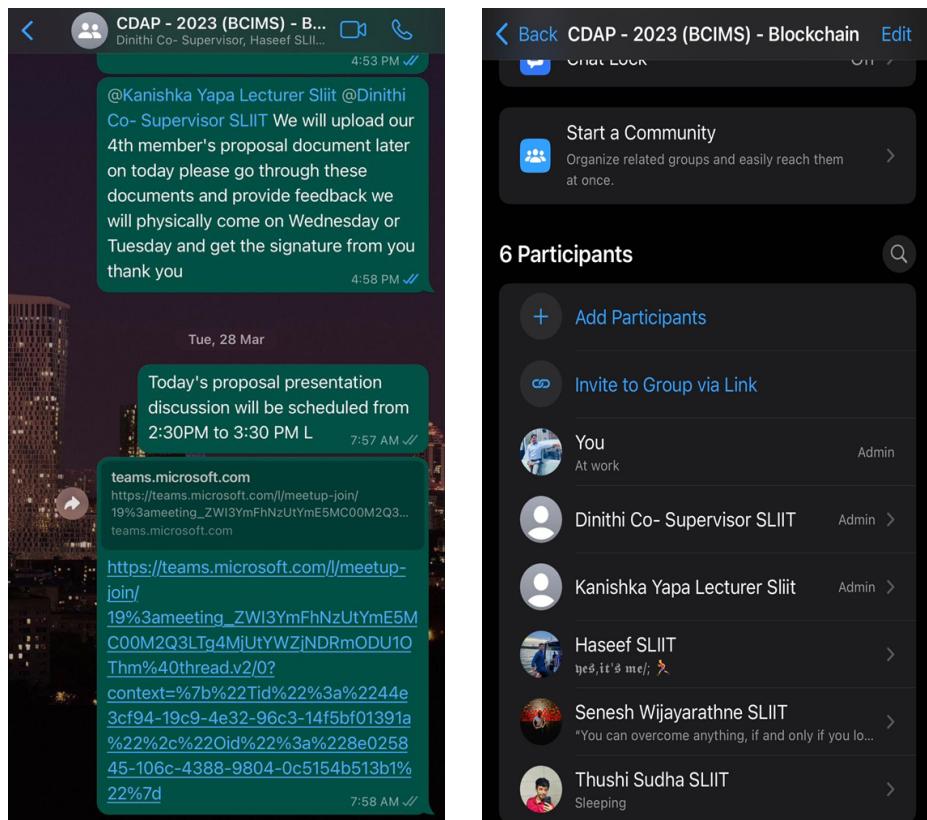


Figure 08: WhatsApp group related to the Research

1.3.5. Recent Meetings/Calls with the Team

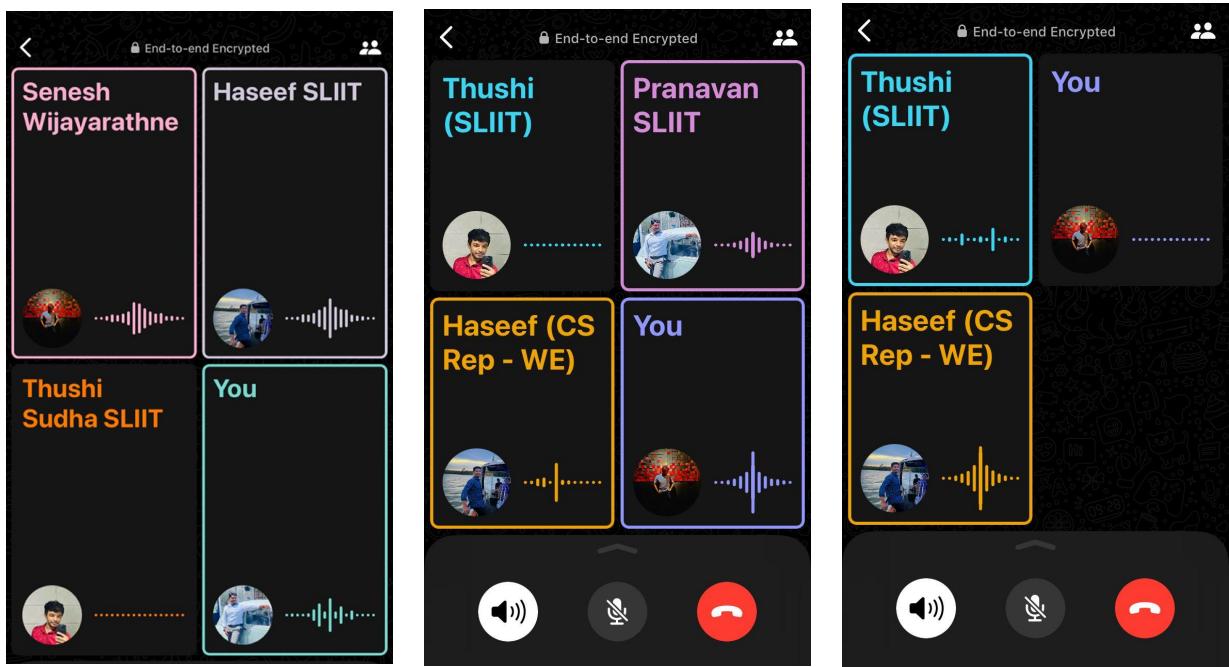


Figure 09: Recent Calls about the Research

2. Microsoft Teams [Individual]

This section holds the details of the research that was conducted individually (individual component) that was monitored, recorded, and updated on the Microsoft Team platform. All the required documentation that are relevant to my individual components are added here and monitored. System checklists that need to be conducted are also added here so it can be updated and monitored.

2.1. Microsoft Planner

2.1.1. Analytics

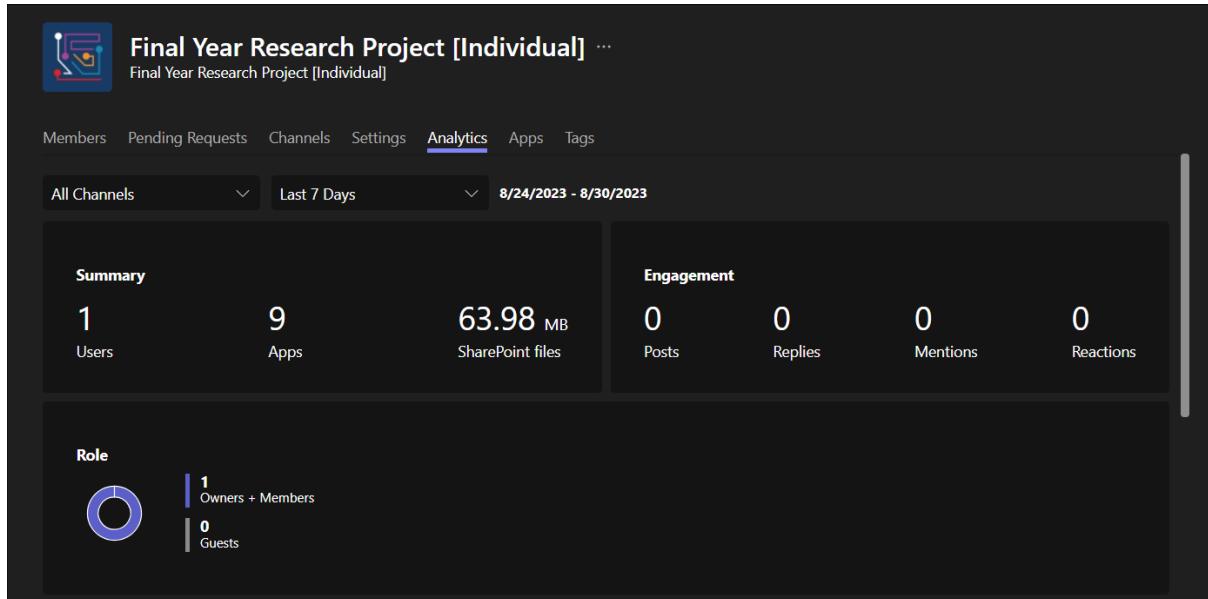


Figure 10: Microsoft Teams Analytics [Individual]

2.1.2. Board

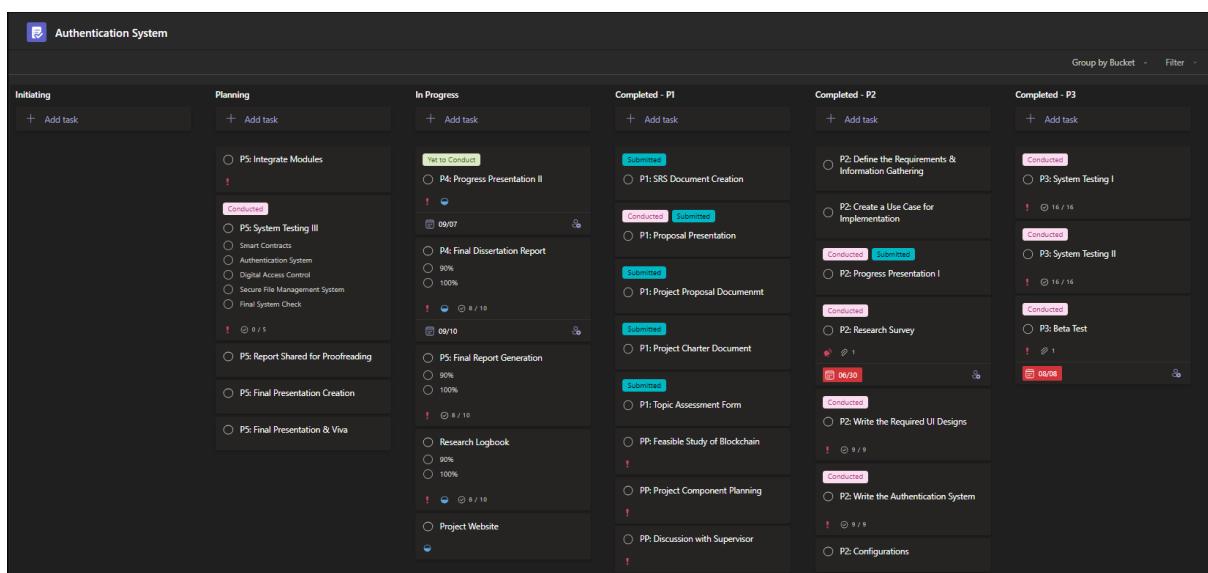


Figure 11: Final Year Research Task Board [Individual]

2.1.3. Chart

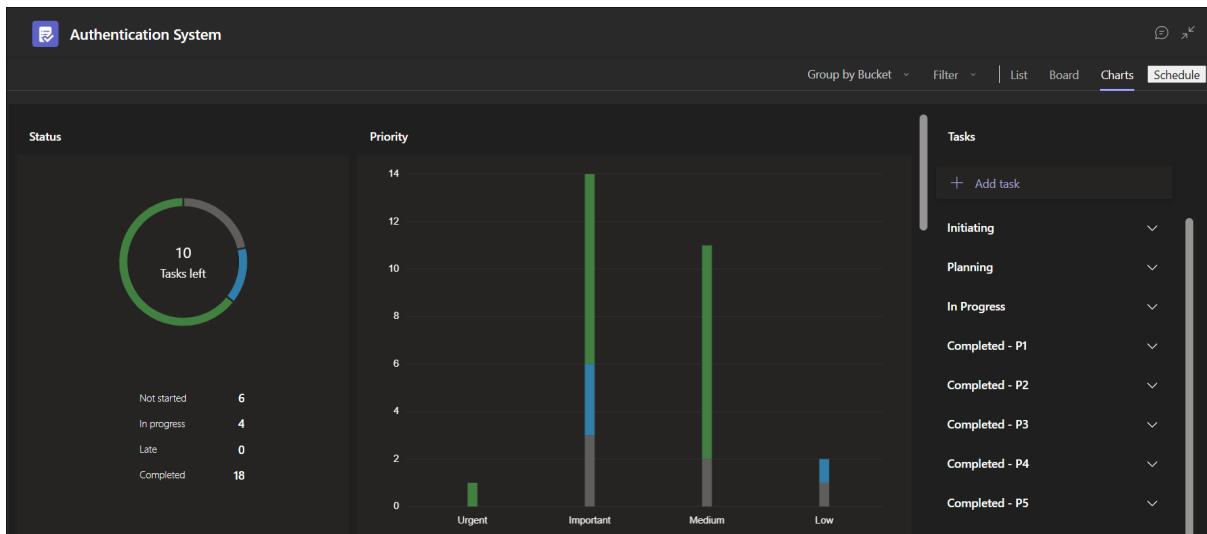


Figure 12: Final Year Research Task Chart[Individual]

2.1.4. List

Task title	Assigned to	Priority	Due	Bucket
+ Add a task				...
P5: System Testing III	Wijayaratne S. Nit20171438	!		Planning
P5: Integrate Modules		!		Planning
P5: Report Shared for Proofreading				Planning
P5: Final Presentation Creation		↓		Planning
P5: Final Presentation & Viva				Planning
P5: Final Report Generation	8/10	!		In Progress
Research Logbook	8/10	!		In Progress
Project Website		↓		In Progress
P4: Progress Presentation II		!	9/7	In Progress
P4: Final Dissertation Report		!	9/10	In Progress

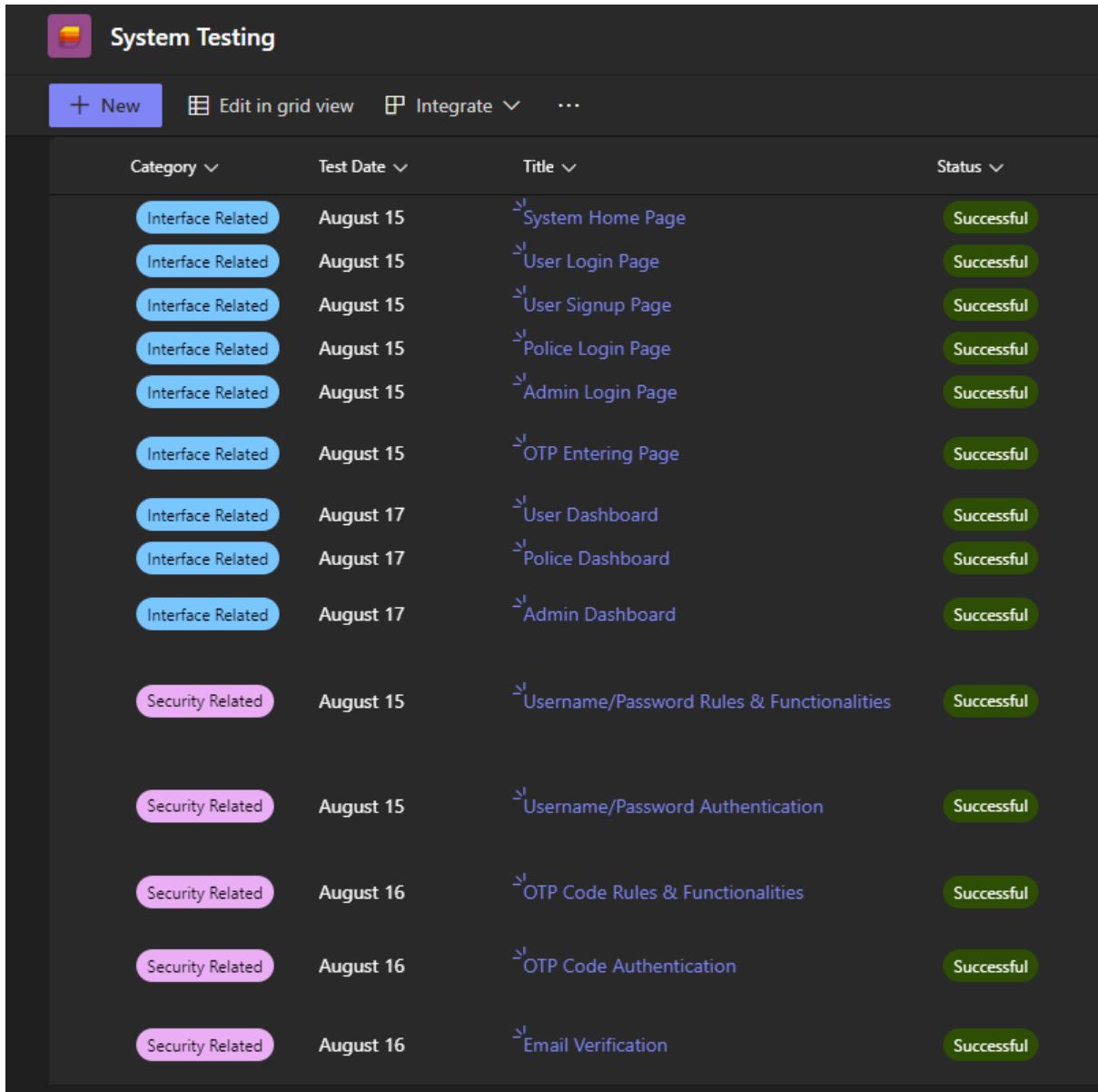
Figure 13: Final Year Research Task List [Individual]

2.1.5. Files

Documents > General			
Name	Document ...	Modified By	+ Add column
Blockchain-Based Criminal Information Management System in Sri Lanka - Authentication System (Research Paper).docx	docx	Wijayaratne S. Nit20171438	
Feedbacks from Beta Test (Final).xlsx	xlsx	Wijayaratne S. Nit20171438	
Final Dissertation _ Blockchain-Based Criminal Information Management System In Sri Lanka - Authentication System.docx	docx	Wijayaratne S. Nit20171438	
Gantt Chart - IT20171438.xlsx	xlsx	Wijayaratne S. Nit20171438	
Implementation of an Authentication System (Final).xlsx	xlsx	Wijayaratne S. Nit20171438	
IT20171438 Logbook [2023-270].docx	docx	Wijayaratne S. Nit20171438	
Proposal-report-23-IT20171438.docx	docx	Wijayaratne S. Nit20171438	
Status Document 01 - IT20171438.pdf	pdf	Wijayaratne S. Nit20171438	
TAF Resubmit.docx.pdf	pdf	Wijayaratne S. Nit20171438	

Figure 14: Final Year Research Files [Individual]

2.3. System Testing



The screenshot shows a dark-themed application window titled "System Testing". At the top, there are buttons for "+ New", "Edit in grid view", "Integrate", and three dots. The main area is a table with four columns: "Category", "Test Date", "Title", and "Status". The "Category" column uses colored rounded rectangles to categorize the tests. The "Status" column uses green rounded rectangles with the word "Successful" in white.

Category	Test Date	Title	Status
Interface Related	August 15	System Home Page	Successful
Interface Related	August 15	User Login Page	Successful
Interface Related	August 15	User Signup Page	Successful
Interface Related	August 15	Police Login Page	Successful
Interface Related	August 15	Admin Login Page	Successful
Interface Related	August 15	OTP Entering Page	Successful
Interface Related	August 17	User Dashboard	Successful
Interface Related	August 17	Police Dashboard	Successful
Interface Related	August 17	Admin Dashboard	Successful
Security Related	August 15	Username/Password Rules & Functionalities	Successful
Security Related	August 15	Username/Password Authentication	Successful
Security Related	August 16	OTP Code Rules & Functionalities	Successful
Security Related	August 16	OTP Code Authentication	Successful
Security Related	August 16	Email Verification	Successful

Figure 15: Individual Component Testing

3. Gantt Chart

Wijayaratne S.N [IT2017438]

Project Start Date: 1/1/2023

Scrolling Increment: 5

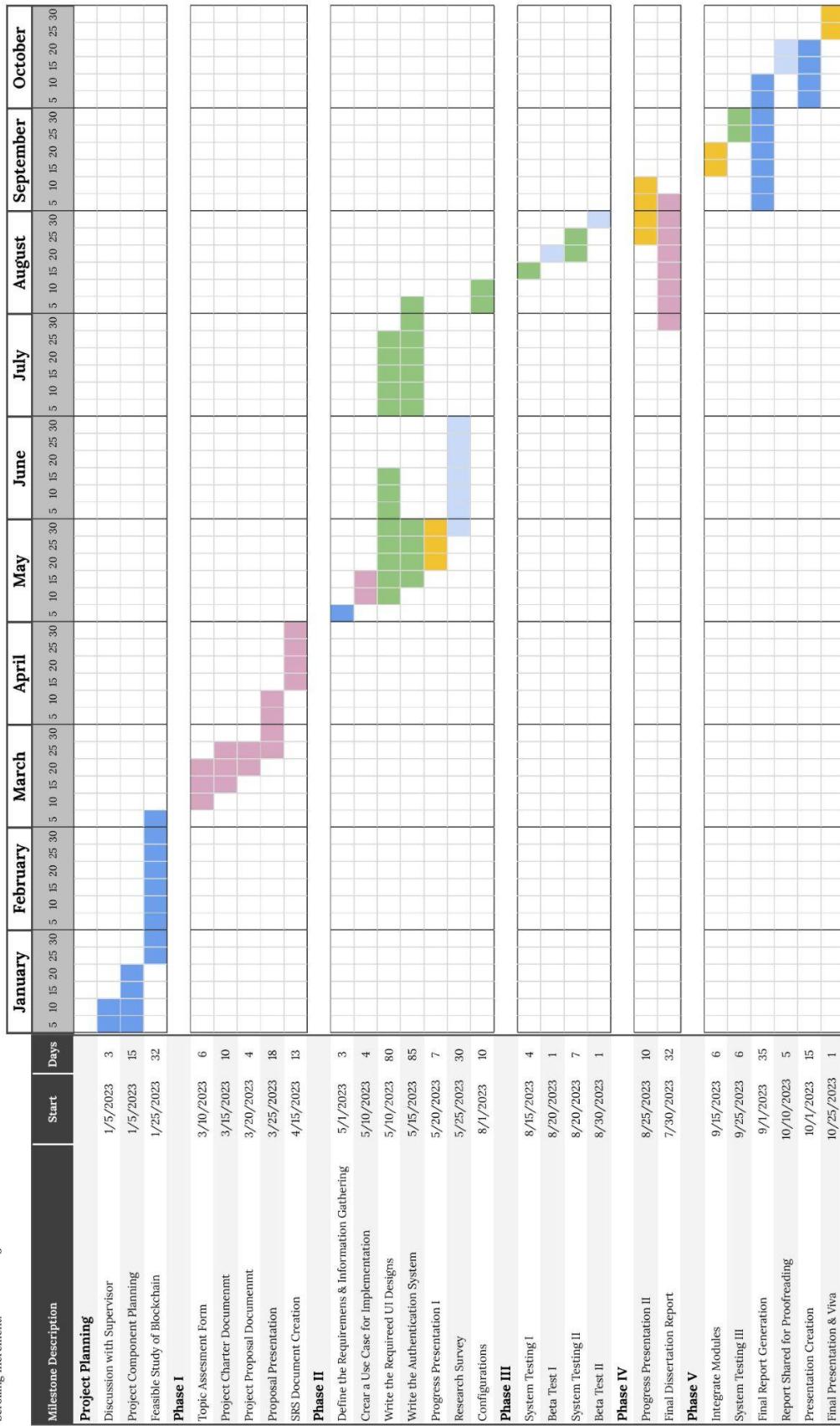


Figure 16: Gantt Chart

4. Work Breakdown Structure

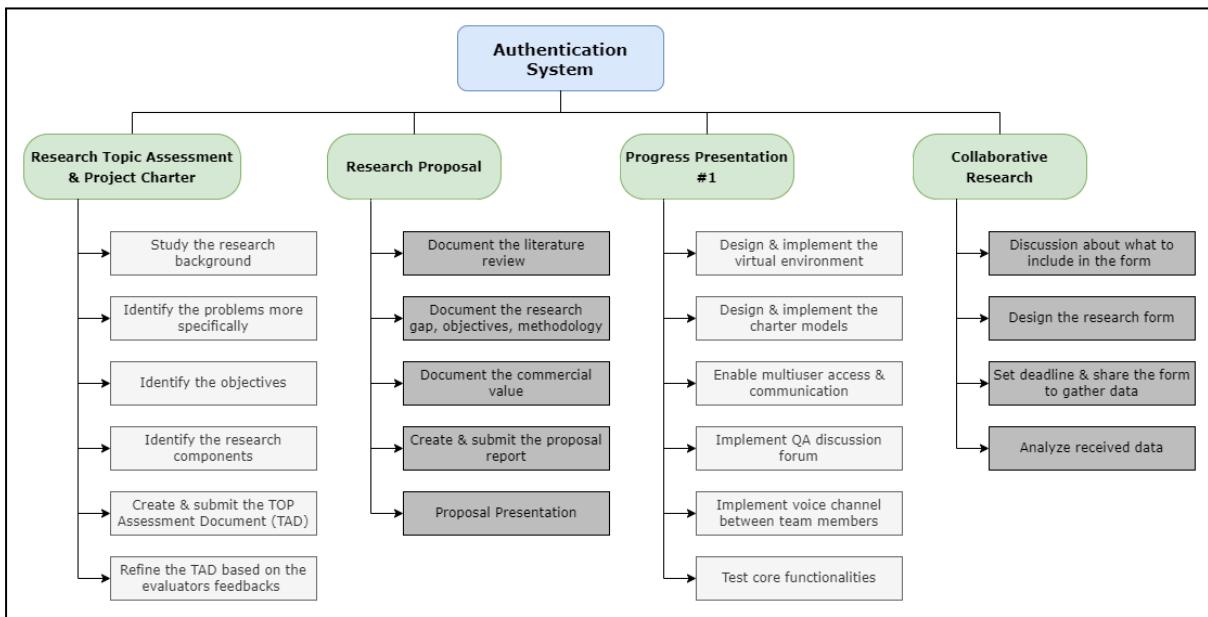


Figure 17: Work Breakdown Structure I

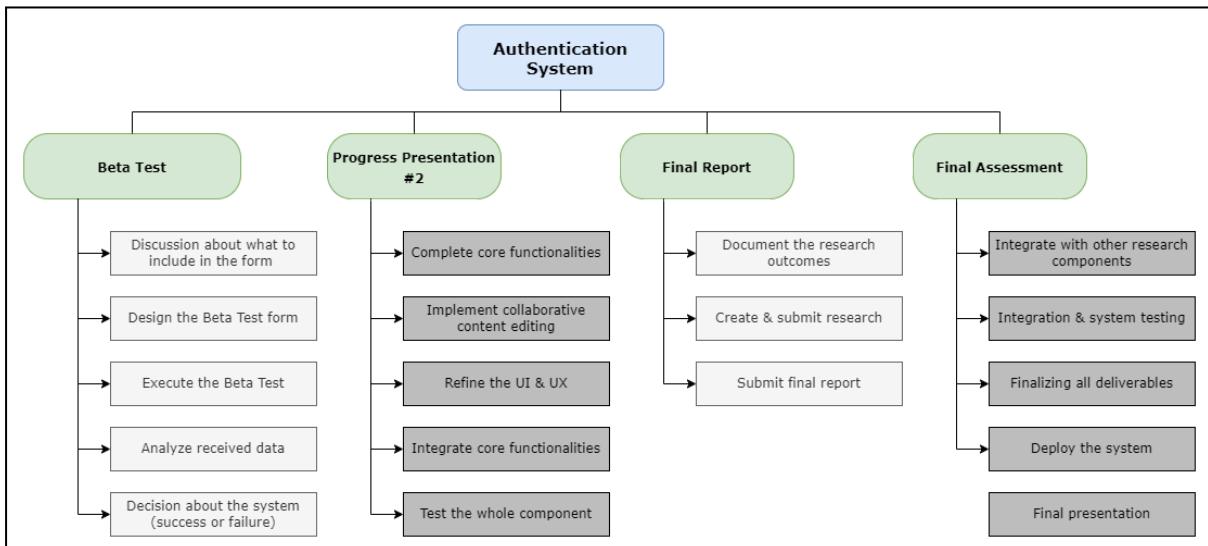


Figure 18: Work Breakdown Structure II

5. GitLab

5.1. Group Members in GitLab

The screenshot shows the 'Members' section of a GitLab group named 'TMP-23-270'. The left sidebar lists various project management features like Project overview, Repository, Issues, Merge Requests, CI / CD, Operations, Analytics, Wiki, Snippets, Settings, General, and Members. The 'Members' option is selected. The main content area displays a table titled 'Existing members and groups' under 'Members of TMP-23-270'. The table lists six members with their profile pictures, names, email addresses, and the date they were given access. A search bar at the top right allows finding existing members by name.

Member	Email	Access Given
Brahanawardhan Balasubramaniam	@Brahanawardhan_IT20150952	3 months ago
Dinithi Pandithage	@dinithi_sp	3 months ago
Haseef Ahmed	@IT20157814	3 months ago
Kanishka Yapa	@kanishka	3 months ago
Senesh Wijayarathne	@it20171438	3 months ago
Thushitharan	@it19983370	3 months ago

Figure 19: Team members on GitLab

5.2. GitLab Commits

The screenshot shows the 'Commits' page for the repository 'tmp-23-270'. The top navigation bar includes dropdowns for 'Authentication_Sy...' and 'tmp-23-270', and buttons for 'Create merge request' and 'Filter by commit message'. The main content is divided into two sections: '06 Sep, 2023 4 commits' and '05 Sep, 2023 36 commits'. Each commit entry includes a user icon, the commit message, the author's name, the date, and a set of icons for copy/paste and file operations.

Date	Author	Commit Message	Hash	Actions
06 Sep, 2023	Senesh Wijayarathne	Update README.md	6a85f16c	[copy] [file]
06 Sep, 2023	Senesh Wijayarathne	Update README.md	4c1d296f	[copy] [file]
06 Sep, 2023	Senesh Wijayarathne	Update README.md	799b1adc	[copy] [file]
06 Sep, 2023	Senesh Wijayarathne	Updated README.md	404aac5	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	b613a423	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	2e8790f5	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	ee8c08d1	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	92cab939	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	e28c7341	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	69ff5f30	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	d448ef72	[copy] [file]
05 Sep, 2023	Senesh Wijayarathne	Upload New File	df690f93	[copy] [file]

Figure 20: Individual GitLab Commits

5.3. GitLab Project Overview

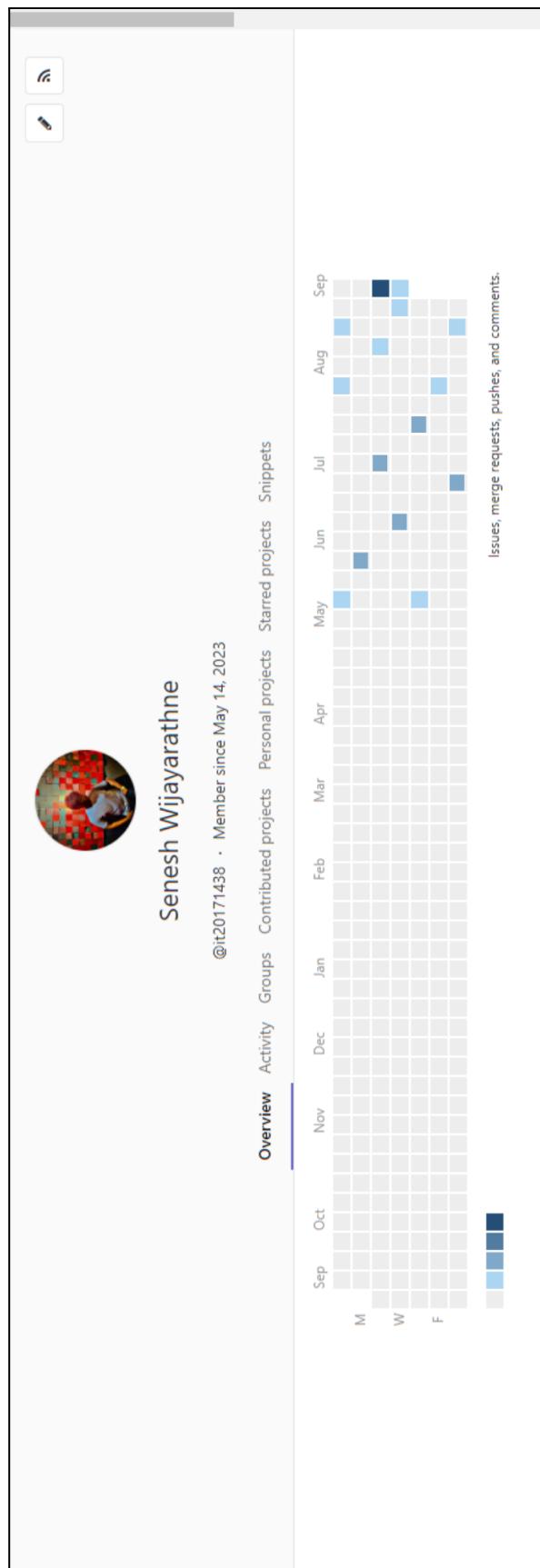


Figure 21: GitLab Project Overview [Individual]

5.4. GitLab Project Files

The screenshot shows a list of files in a GitLab repository. The top navigation bar includes links for Authentication_Sy..., tmp-23-270, History, Find file, Web IDE, Clone, and a user icon. The main content area displays a table with columns for Name, Last commit, and Last update.

Name	Last commit	Last update
Admin	Upload New File	21 hours ago
CS	Delete :gitkeep	21 hours ago
Fonts	Upload New File	21 hours ago
Images	Upload New File	21 hours ago
Includes	Upload New File	21 hours ago
JS	Upload New File	21 hours ago
Police	Upload New File	21 hours ago
User	Delete :gitkeep	21 hours ago
README.md	Update README.md	12 hours ago
index.php	Upload New File	21 hours ago

Figure 22: GitLab Project Files [Individual]

6. ICAC Paper Submission

6.1. Group Submission

The screenshot shows the 'Edit Conflicts of Interest' page. At the top, there are tabs for 'Submissions', 'Search help articles', 'Help Center', 'Select Your Role: Author', '5ICAC2023', and 'Senesh Wijayaratne'. Below the tabs, it says 'Edit Conflicts of Interest'. There are three fields: 'Track Name' (Cyber Security), 'Paper ID' (217), and 'Paper Title' (Blockchain-Based Criminal Information Management System in Sri Lanka). At the bottom, there is a pagination bar with '0 - 0 of 0' and a 'Show' dropdown set to 25, along with buttons for 50, 100, All, and Clear All Filters.

Figure 23: ICAC Paper Submission [Group]

The screenshot shows an email from Microsoft CMT (email@msr-cmt.org) to the user. The subject is '5th International Conference on Advancements in Computing 2023 : Submission (217) has been created.' The email body contains the following information:
Hello,
The following submission has been created.
Track Name: Cyber Security
Paper ID: 217
Paper Title: Blockchain-Based Criminal Information Management System in Sri Lanka
Abstract:
Due to the current economic crisis in Sri Lanka, people's lifestyles are in difficult conditions. Due to this, crimes are increasing rapidly. The graph of criminal activities is steadily increasing in the country because of an economic crisis and the Globalization of ultra-modern technology. In many industries today, blockchain applications are being explored as a secure and cost-effective method to manage a distributed database and keep track of all types of digital transactions. In Sri Lanka, the existing criminal information management system is a traditional paper-basis approach. Storing, retrieving, and updating criminal records are highly time-consuming. As a result, it causes many drawbacks. To address the drawback, our team is proposing Blockchain-based technology for a criminal information management system called "CRYYSIS." Blockchain can take the position of the accumulation of criminal records with a network where criminal records information is easily accessible within the organization, secure, and cannot be altered. A P2P (peer-to-peer) network called blockchain aids in the decentralization of criminal Records. As a result, to maintain a ledger to prevent a single point of failure (SPOF), and all the criminal records will be updated and validated in real-time. Because they are easily accessible and unbreakable, decentralized networks with straightforward algorithms are safe and cryptographically secured. Blockchain's peer-to-peer network facilitates the sharing of information within organizations. To ensure criminal records' confidentiality and integrity, this system will be built on the immutability feature of blockchain. By developing this blockchain-based system, the corruption of risk factors can be reduced.
Created on: Tue, 29 Aug 2023 03:47:21 GMT

Figure 24: ICAC Paper Submission Email Confirmation [Group]

6.2. Individual Submission

The screenshot shows the 'Edit Conflicts of Interest' page. At the top, there are tabs for 'Submissions', 'Search help articles', 'Help Center', 'Select Your Role: Author', '5ICAC2023', and 'Senesh Wijayaratne'. Below the tabs, it says 'Edit Conflicts of Interest'. There are three fields: 'Track Name' (Cyber Security), 'Paper ID' (360), and 'Paper Title' (Blockchain-Based Criminal Information Management System in Sri Lanka: Authentication System). At the bottom, there is a pagination bar with '0 - 0 of 0' and a 'Show' dropdown set to 25, along with buttons for 50, 100, All, and Clear All Filters.

Figure 25: ICAC Paper Submission [Individual]

The screenshot shows an email from Microsoft CMT (email@msr-cmt.org) to the user. The subject is '5th International Conference on Advancements in Computing 2023 : Submission (360) has been created.' The email body contains the following information:
Hello,
The following submission has been created.
Track Name: Cyber Security
Paper ID: 360
Paper Title: Blockchain-Based Criminal Information Management System in Sri Lanka: Authentication System
Abstract:
Due to the current economic crisis in Sri Lanka, people's lifestyles are in difficult conditions. Due to this, crimes are increasing rapidly. The graph of criminal activities is steadily increasing in the country because of an economic crisis and the Globalization of ultra-modern technology. In many industries today, blockchain applications are being explored as a secure and cost-effective method to manage a distributed database and keep track of all types of digital transactions. In Sri Lanka, the existing criminal information management system is a traditional paper-basis approach. Storing, retrieving, and updating criminal records are highly time-consuming. As a result, it causes many drawbacks. To address the drawback, our team is proposing Blockchain-based technology for a criminal information management system called "CRYYSIS." As for the Authentication System for the Blockchain-Based Criminal Information Management System in Sri Lanka, a multifactor authentication system was considered to be implemented, but with collaborative research conducted by myself and Ms. Ms. M. W. N. L. De Silva [Masters in Information System Management - University of Colombo | B.Sc. (Hons) in Information Systems - General Sir John Kotelawala Defence University] showed us an advanced system would not be compatible with the day-to-day use for the citizens of Sri Lanka. Considering the results of that collaborative research, the base system had to be altered. But that setback was not enough, and the Authentication System was built to be simple but more secure than the existing systems and methods. A separately conducted Beta Test provided the success of the Authentication System.
Created on: Wed, 30 Aug 2023 15:18:18 GMT

Figure 26: ICAC Paper Submission Email Confirmation [Individual]