# MICHIGAN STATE UNIVERSITY Project Plan Presentation Agentic Collaborator

### The Capstone Experience

### **Team Ally**

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From Students... ...to Professionals

### **Project Sponsor Overview**

### **Ally Financial**

- Headquartered in Detroit, Michigan
- Leading digital financial services company
- Known for innovation in banking, auto finance, and insurance services
- Recent focus on AI and machine learning to optimize internal operations



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### **Project Functional Specifications**

- Managing email threads with multiple collaborators makes tracking consensus challenging
- Large language models and AI agents make the task of understanding emails easier for corporate users
- Automate consensus building in email threads, visualize the consensus on a web application dashboard and develop a RAG pipeline to analyze data

### **Project Design Specifications**

- Internal web application to simplify decision making
- Thread tracking page that displays current and past threads in a table
- Users flag a email thread in outlook using a custom widget
- Consensus building dashboard displays tables showing email, feedback, and a summary of positive and negative feedback

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## Screen Mockup: Multithread table

Thread Tracker	
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Thread ID	Title	Created Date	Status
XXXXXXXXXX	Title 1	09/16/24 16:39:21	49%
****	Title 2	09/16/24 16:39:21	30%
хххххххх	Title 3	09/16/24 16:39:21	84%
	Title 4	09/16/24 16:39:21	62%
****	Title 4	09/16/24 16:39:21	100%
xxxxxxxx	Title 5	09/16/24 16:39:21	100%
XXXXXXXX	Title 6	09/16/24 16:39:21	100%
***	Title 7	09/16/24 16:39:21	100%

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## Screen Mockup: Consensus Builder Dashboard

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Email	Feedback	Response Time	Quick Action
Lawyer1@email.com	Undeterminted	9/15/2024 14:51:32	Remind
Lawyer2@email.com	Undeterminted	9/15/2024 14:51:32	Remind
Lawyer3@email.com	Negative	9/15/2024 14:51:32	(Details >)
Lawyer4@email.com	Positive	9/15/2024 14:51:32	Details >
Compliance1@email.com	Positive	9/15/2024 14:51:32	(Details >)
Compliance2@email.com	Negative	9/15/2024 14:51:32	(Details >)
Compliance3@email.com	Negative	9/15/2024 14:51:32	Details >
Compliance4@email.com	Positive	9/15/2024 14:51:32	(Details >)



#### **General Sentiment:**

positives:	
- sleek design	
- comfortable fit	

- accurate fitness tracking
- monitors heart rate
- waterproof feature
- negatives:
- disappointing battery life
- sluggish interface
   notifications lag
- price not justified
- app integration issues

### Screen Mockup: Activity Log

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#### Activity Log

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Thread ID ↑↓	Action Taken ↑↓	Time †↓	Affected User 1	Agent ↑↓
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
XXXXXXXXX	Consensus derived from Agent	09/16/24 16:39:21	lawyer@email.com	Email Consensus
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# Screen Mockup: Email Summary Modal

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Consensus Builder				
Email	Feedback	Email Summary X	9565	
Lawyer1@email.com	Undeterminted	<sup>9</sup> "Dear Andrew, I recently bought this new smartwatch, and while it looks great on the wrist, I'm not completely sold on its		
Lawyer2@email.com	Undeterminted	functionality. The design is sleek, and it fits comfortably, but the battery life is disappointing. It barely lasts a day, which makes it hard to rely on for long periods. That being said, the fitness		
Lawyer3@email.com	Negative	tracking features are spot on, and I love how it monitors my heart rate throughout the day. However, the interface is a bit sluggish, and sometimes the notifications lag, which can be frustrating. The		
Lawyer4@email.com	Positive	9 waterproof feature is a plus, though, as I don't have to worry about it getting wet. Overall, it has potential, but I feel like there are		
Compliance1@email.com	Positive	better options out there for the price. I wish the app integration was smoother and more user-friendly. Still, if you're not using it heavily, it's a decent pick for casual users. Thanks, Dave"	ent:	)
Compliance2@email.com	Negative	9		negatives: - disappointing battery life
Compliance3@email.com	Negative	g View in Outlook		<ul> <li>sluggish interface</li> <li>notifications lag</li> <li>price not justified</li> </ul>
		- waterproof fea		<ul> <li>app integration issues</li> </ul>

### **Project Technical Specifications**

- Combination of an Outlook widget and a React web application
- Utilizes Python, OpenAI API, and PostgreSQL database with a Flask server for backend processes
- React for frontend, supported by Node.js
- Server Rack using to host all services
- LangChain provides a framework for building Al agents

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### **Project System Architecture**



### **Project System Components**

- Hardware Platforms
  - Server Rack
- Software Platforms / Technologies
  - Flask
  - PostgreSQL
  - Google Firebase
  - LangChain/LangGraph
  - Python
  - React.js
  - Node.js

### **Project Risks**

- Integration of insights into Outlook
  - What AI insights can be displayed directly in Outlook?
  - Develop experimental add-in with dummy data
- Email parsing
  - How can we consistently and accurately extract text from the email body and subject?
  - Create a mechanism that resorts to static parsing if model based parsing produces low-confidence results
- Opening specific emails from web app
  - Is it possible to open an email in outlook directly from web app?
  - Investigate outlook REST-API capabilities to understand whether limitations exists, develop a backup solution where web app provides a link
- Handling images in text focused attachments
  - Can we process images embedded within outlook attachments?
  - Assess images impact on the attachment context/use image processing tools like OCR software



### **Questions?**

