SIGHT Project: Meeting 05 Minutes

Project Name: SIGHT
Project Number: WSIC26-250206-009
Date: September 12, 2025
Time: 11:00 AM – 11:46 AM
Location: FSB 3097 & Zoom
Slides: https://fmegahed.github.io/sight/presentations/meeting05/meeting05.html

Attendees:

- **Miami University (MU):** Fadel Megahed (PI), Mohammad Mayyas (Co-PI), Jay Shan (Co-PI), Reza Abrisham Baf (SP), Ibrahim Yousif (Post Doc), Michael Wise (Graduate Research Assistant), Austin Hamilton (Student Assistant), Ryan Singh (Student Assistant), Maressa Dixon (Evaluator), Yue Li (Evaluator)
- **University at Buffalo (UB):** Lora Cavuoto (Safety Consultant)
- **MaxByte:** Harish Chittaluri (Tech Lead), Gift Selvin (Education Liaison)
- **MeetKai:** Jacquie Babakanian (Chief of Staff), Vincent Cheong (Software Engineer)
- **Engineered Profiles:** Vick Dhanapal (VP of Innovation)

Discussion Summary

F. Megahed opened the meeting by reviewing the agenda and welcoming new team members: Ryan Singh and Austin Hamilton from Miami University, and Vick Dhanapal from Engineered Profiles, the project's new industry partner. The minutes from Meeting 04 were presented and approved without any objections.

I. Project Team Updates

Administrative Updates:

- **Deliverables:** The final version of the Project Management Plan (PMP) was submitted to the BWC on September 12. Deliverable 2.2 (July/August meeting documentation) was officially approved by the BWC just prior to the meeting.

- **Upcoming Reports:** The Project Risk Mitigation Plan is due on September 30 and will require internal university review (ORI) before submission. The Q1 Progress Report, led by Jay Shan, is due on October 10.
- **Attendance:** A reminder was issued for all participants to log into Zoom for attendance tracking, as required for BWC reporting.

Technical Updates:

- **Phase 1 (Q1) Progress:**
  - **Machine Manuals (Task 1.1):** This task is complete. Manuals for the Universal Cobot, CNC TL-1, Bridgeport Mill, and an optional Manual Lathe have been fully compiled, reviewed by subject matter experts, and validated through operational tests and LLM analysis.
  - **Image Database (Tasks 1.2-1.3):** This task is also complete. The team collected and augmented an initial set of images, resulting in a final dataset of over 6,000 images. This data was used to train a YOLO v11 object detection model, which achieved a mean average precision of 96.5%. The database is managed in Roboflow and includes semantic search capabilities.
- **Phase 2 (Q2) Progress:**
  - **RAG Chatbot:** The chatbot is now hosted on university servers and its knowledge base has been expanded to include the newly compiled machine manuals. F. Megahed demonstrated the current version and discussed future enhancements, including improved voice integration, reasoning capabilities, and web search functionality.
  - **Image Classification:** I. Yousif presented preliminary results from the object detection model, which successfully identified team members and key machinery in the lab environment.

II. Industry Partner Collaboration

- **MaxByte:** G. Selvin reported that the initial machine assessment is complete, and their needed hardware procurement is underway. The team has sent infrastructure requirements for the AM Hub to MU. I. Yousif added that H. Chittaluri will be at the Hamilton campus in September to conduct a full integration test on one machine to ensure readiness.

- **MeetKai:** J. Babakanian confirmed a follow-up technical meeting will be scheduled with the MU team to define the work plan for 3D model creation and VR development.
- **Engineered Profiles:** V. Dhanapal was welcomed as the representative from the newly secured industry partner.

III. Upcoming Due Dates

- **Project Risk Mitigation Plan:** Due September 30, 2025
- **Q1 Progress Report:** Due October 10, 2025
- **Q2 BWC Grant Meeting Presentation:** October 23, 2025

IV. Risk Log Discussion

- No new major risks were identified
- Minor risk (version control for Shared Drive): L. Cavuoto suggested implementing a more structured version control system for documents in the shared drive, particularly for files used in the RAG knowledge base, to ensure clarity on which versions are final.
- Minor risk (IRB delay): The team discussed the status of the IRB protocol. A follow-up with the university is necessary to verify the approval status and to process an amendment to add new student researchers and postdoctoral staff to the project.

V. Other

Action Items

Who	What	Due Date
MU Team & MeetKai	Schedule and hold a technical meeting to define the VR/3D pipeline.	September 18, 2025
MU Team (Leads: Jay Shan / Discovery Center)	Prepare the Q1 Progress Report (include DC evaluations for tech deliverables).	October 10, 2025
MU Team	Finalize and submit the Project Risk	September 30,

(Leads: Fadel, Arthur, Ibrahim)	Mitigation Plan.	2025
Jay Shan / MaxByte	Coordinate on and prepare the required infrastructure at the AM Hub.	October 15, 2025
Jay Shan	Follow up on IRB approval and prepare an amendment for new personnel.	September 19, 2025

The meeting adjourned at 11:46 AM.

Next Meeting: September 26, 2025