INTEGRATED DECISION SUPPORT SYSTEM FOR NON-COMMUNICABLE OCULAR DISEASES USING MACHINE INTELLIGENCE
[Traveling to Field Test Sites]
Report Form

I. Proposer:

Name:	Assoc Prof Dr Wan Mimi Diyana Wan Zaki
Position:	Project leader
Institution:	Universiti Kebangsaan Malaysia (UKM), MALAYSIA

II. Objective:

1. To validate the system on-site at the HBB satellite Clinic, ensuring full functionality, usability, and real-time connectivity with experts in Malaysia. A prior meeting with Dr. Roly, CEO of HBB Clinic Cambodia, highlighted the presence of many underserved communities in the area who are in urgent need of eye healthcare services. This visit provides an opportunity to ensure the system can function effectively in such high-need, real-world settings.
2. To support basic technology transfer and hands-on training for selected HBB Clinic team members who are interested in adopting and using the system. This initiative aims to build local capacity, encourage practical use, and indirectly promote long-term system sustainability through local engagement and ownership

III. Schedule:

Date	Location	Work	Person in charge
29 July 2025	Institute of Technology of Cambodia, Phnom Penh	Welcome meeting with Dr. Dona; system connectivity check	Dr. Mimi
		Training & knowledge support with HBB volunteers	Dr Marizuana
30 July 2025	Phnom Penh → O-Raing Ov (field site)	Depart to field site (06:30)	Dr. Dona (travel coordination)
	HBB Clinic, O-Raing Ov	System testing with end users (35 patients). Arrived at 09:30	Dr. Haliza (screening), Dr. Mimi & Dr Marizuana (system)
	O-Raing Ov → Phnom Penh	Return to Phnom Penh. Arrived Phnom Penh at 07:00	Dr. Dona
31 July 2025	Cambodia Hospital Beyond Boundary (HBB) Clinic at Phnom	System demonstration to the CEO, doctor and staff of HBB Clinic.	Dr. Mimi and Dr Marizuana

	Penh	LOI signing ceremony. Technology transfer and hands-on training to the HBB Clinic doctor and staffs.	

IV. Participants:

No.	Name	Organization
1	AP Dr. Wan Mimi Diyana Wan Zaki	Universiti Kebangsaaan Malaysia (UKM)
2	AP Dr. Haliza Abdul Mutalib	Universiti Kebangsaaan Malaysia (UKM)
3	Dr Dona Valy	Institute of Technology of Cambodia (ITC)
4	Dr Marizuana Mat Daud	Universiti Kebangsaaan Malaysia (UKM)
5	Ms Laily Azyan Ramlan	Universiti Kebangsaaan Malaysia (UKM)
6	Muhamad Nur Hafizun Muhamed Saman	Universiti Kebangsaaan Malaysia (UKM)
7	Syokriyah (volunteer)	Norton University, Cambodia
8	Ly Rany (volunteer)	Norton University, Cambodia
9	Sanika (volunteer)	Norton University, Cambodia

V. Summary of the activities corresponding to the objectives

Objective 1: To validate the system on-site at the HBB satellite Clinic, ensuring full functionality, usability, and real-time connectivity with experts in Malaysia.

- A tutorial was conducted to guide students or designated personnel through the installation of the myMata app on Android devices. The session covered the entire system workflow, beginning with capturing the anterior segment photographic images (ASPI) using the app. Once the images are captured, they are uploaded to both the web server and the cloud database. From there, the images can be accessed via the cloud, and the algorithm module on the web server processes the ASPI to generate detection results.

- The app offers two modes: online and offline. The online mode is available when the user has internet access, while the offline mode is designed to support data collection in rural areas with limited or no internet connectivity. Additionally, a third feature allows offline data to be uploaded once an internet connection is available. This ensures a seamless data collection process in offline mode, ultimately speeding up the overall workflow. Users are also able to report any problems they encounter at any point to the myMata team, whether before, during, or after data collection to help maintain the smooth operation of the app and system.

- Knowledge & technology transfer/sharing

1) Day 1: A sharing session was held with potential users, where they received training on how to use the myMata app. The session was attended by HBB volunteers who would participate in the system validation program in O-Raing Ov District, Tbong Khmom Province. During the session, the volunteers were introduced to the app, its purpose, and the main goals of the system.
2) Day 3: During a visit to the HBB Clinic in Phnom Penh, the CEO expressed interest in the system and suggested incorporating the app into their upcoming outreach programs. He then requested training for his doctors and staff to ensure they could effectively use the app. To facilitate this, the myMata team provided the clinic with a phone pre-installed with the app, fully configured for immediate use.

- Challenges Encountered:

1. Language Barrier: Communication during the technology transfer with the HBB volunteers was challenging due to their limited English proficiency and varying interpretations of the explanations (e.g., what was explained wasn't always understood as intended). Additionally, the absence of the doctors and staff from the HBB Clinic during the on-site system validation made it somewhat difficult to provide clear explanations of the system in use.

2. Internet Connectivity: Despite the use of Wi-Fi at the clinic, data upload times were significantly longer than expected, highlighting issues with internet connectivity.

Objective 2: To support basic technology transfer and hands-on training for selected HBB Clinic team members who are interested in adopting and using the system.

- Focused on supporting technology transfer and hands-on training for selected HBB Clinic team members interested in adopting the system. A tutorial was conducted to guide the team through installing and using the myMata app on Android devices, covering the workflow from capturing anterior segment photographic images (ASPI) to uploading data to the web server and cloud database.
- The clinic team was introduced to the app's online and offline modes, with emphasis on the feature that allows offline data to be uploaded once an internet connection is available, ensuring smooth data collection. In addition to this initial training, ongoing support was provided, enabling the clinic team to report any issues encountered at any stage. During a visit to the clinic, the CEO showed interest in incorporating the app into their outreach programs and requested further training for the doctors and staff. To facilitate immediate use, the myMata team provided the clinic with a pre-configured phone installed with the app.

VI. Others

Day 1:

myMata team member explaining to the volunteers and Dr. Dona on how to use the apps

Volunteer trying the apps with the help of myMata team member

myMata team members with Dr. Dona and the volunteers after the session ends

Official banner for myMata at Cambodia

Day 2:

myMata team members working with Dr. Dona and the volunteers to do eye screening on the participants at the Ampil Ta Pok Health Center, O-Raing Ov District, Tbong Khmom Province

Appreciation token distribution by the myMata team to Dr. Dona, the village chief, the volunteers and all participants

One of the volunteers trying myMata apps on the participant

myMata team members, Dr. Dona and the volunteers with the health officers from the health center in front of the building after the program ends

Day 3:

Signing of the LOI between Assoc. Prof. Dr. Ts. Wan Mimi Diyana and Dr. Roly from HBB Clinic

myMata team members conducting a sharing session with the HBB Clinic staff

One of the HBB Clinic doctors trying to capture ASPI of Dr. Wan Mimi using the myMata app

myMata team members with Dr. Roly and his team in front of the clinic