



A NARRATIVE REPORT

FOR

**ICT-4MRPQ PROJECT
MOBILE APPLICATION DEVELOPMENT HACKATHON**

HELD AT

**MUBS-ENREPRENEURSHIP INNOVATION AND INCUBATION CENTRE
ON 25-26 AUGUST 2023**

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EXECUTIVE SUMMARY

Background

The main objective of the ICT-4 MRPQ project is to strengthen Uganda's Higher Education Institutions (HEIs) capacity to use ICT in Masters' research journey quality management processes and devise Policy reforms for relevant high-quality research outputs. Five Universities are partnering in ICT-4MRPQ project, including three from Uganda (MUBS, MAK & MUST), one from Portugal (ULisboa), and one from the Netherlands (VU, Amsterdam). Other key partners include National Council for Higher Education, Kyazze, Kankaka & Co. Advocates & UCCSRI Ltd. The project is funded by European Union and Prof. David Katamba is the project overall coordinator. The key outputs of the project include development of a masters e-Supervision Web Portal and Mobile application. The web portal is fully developed and operational. The current project activity relates to the development of Masters e-supervision mobile application to support student to access research supervision services. The project adopted a hackathon approach to develop a master's research e-supervision mobile App to be linked to the master's research e-supervision web platform. The Mobile App shall allow the key stakeholders including students to access and use the e-supervision platform through their mobile devices. Mobile Application aims to addresses gaps in research quality, enhance student-supervisor interaction, minimize redundancy in skills transfer, and ensure transparency in the assessment process.

Hackathon process

A total of five (5) teams were shortlisted to participate in the Master's research e-supervision Mobile Application Development Hackathon that took place at MUBS-EIIC from 25-26 August 2023. The teams were shortlisted from a total of 19 teams that responded to a call for applications

Panel of Judges

The panel of five (5) Judges – one from each of the three participating universities in Uganda, one from the National Council of Higher Education, and one from the National Information Technology Authority of Uganda (NITA-U) participated in the final pitching and evaluation session.

Winners and Award

Overall winner as Team Scholar Track led by Augustine Beilel from Mbarara University of Science and Technology (MUST). The team was awarded a dummy cheque of 4,000,000/- (One Million Shillings Only) and a plaque. Team Scholar Track will sign a contract to complete the development and implementation of the masters' e-supervision mobile application.

First Runner up as Team Ubuntu Kwanza led by Bob Wesonga from Mbarara University of Science and Technology (MUST). The team was awarded a dummy cheque of 2,000,000/- (One Million Shillings Only) and a plaque.

Second Runner up as Team Tukondige led by Viola Awor from Makerere University Business School (MUBS). The team was awarded a dummy cheque of 1,000,000/- (One Million Shillings Only) and a plaque.

Third Runner up Team Hackers led by Allan Amanyanya Kayumbu from Makerere University (MUK). The team was awarded dummy cheque of 500,000/- and a plaque.

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1.0 BACKGROUND

1.1 ICT-4MRPQ Project

The main objective of the ICT-4 MRPQ project is to strengthen Uganda's Higher Education Institutions (HEIs) capacity to use ICT in Master's research journey quality management processes and devise Policy reforms for relevant high-quality research outputs. Five Universities are partnering in the ICT-4MRPQ project, including three from Uganda (MUBS, MAK & MUST), one from Portugal (ULisboa), and one from the Netherlands (VU, Amsterdam). Other key partners include National Council for Higher Education, Kyazze, Kankaka & Co. Advocates & UCCSRI Ltd. The key outputs of the project include a Master's e-Supervision Web Portal and Mobile application.

1.2 Master's E-Supervision Web Application component

As part of the project deliverables, a Master's research electronic supervision web platform was developed to support master's research supervision in the participating local universities of Makerere University (MAK), Makerere University Business School (MUBS) and Mbarara University of Science and Technology (MUST). The web portal supports student enrollment into the research project, research idea generation, supervisor allocation, and supervision records management - up to post assessment / viva-voce. Master's E-Supervision Web Portal Application aims to address Master's research quality gaps such as student-supervisor interaction records management, redundancies in supervisor-student skills transfer, research time redundancy, and transparency in the viva-voce process.

1.3 Masters E-Supervision Mobile Application component

The project adopted a hackathon approach to develop a master's research e-supervision mobile app to be linked to the master's research e-supervision web platform. The mobile app shall allow the key stakeholders including students to access and use the e-supervision platform through their mobile devices. It aims to address gaps in research quality, enhance student-supervisor interaction, minimize redundancy in skills transfer, and ensure transparency in the assessment process.

1.4 Hackathon application and selection process

A total of five (5) teams were shortlisted to participate in the Master's Research e-Supervision Mobile Application Development Hackathon that took place at MUBS-EIIC from 25-26 August 2023. The teams were shortlisted from a total of 19 teams that responded to a call for applications **(Appendix 1)**.

2.0 HACKATHON ACTIVITY SUMMARY

This section is a description of activities undertaken during the hackathon.

2.1 Final pre-hackathon preparatory meeting on 24/08/2024

A pre-hackathon planning meeting was held on Thursday, August 24, 2023 at MUBS –EICC starting at 2:00pm. The purpose of the meeting was to assign various tasks to responsible persons, set up the venue and follow-up service providers and suppliers of various products and services required during the hackathon. The meeting was attended by Charles Olupot (Chair), Tom Tamale, Bonny Kagaba, Rehema namutangula, Susan Nalubega Daphine, and Sheila Kesiime.

2.2 Day 1: Hackathon Activity Summary (25/08/2023)

2.2.1 Participant registration

The Secretariat team set up a registration desk at the entrance to the hackathon venue by 8:00am. Team members, guests, and members of the organizing committee were registered before they entered the hackathon venue. Team Hackers from Makerere University were among the members who arrive first at 8:00am. Other teams registered their attendance by 10:00am except Team Ubuntu Kwanza from Mbarara that arrived late; the team members had a University examination in the morning before traveling to Kampala for the hackathon, but they managed to join late in the afternoon. All the five teams registered their attendance in the morning of day 1, totaling 19 team members and 29 guests and organizing committee members (**Appendix 2**).



2.2.2 Participant introductions

Mr. Bonny Kagaba and Tom Tamale, the day managers welcomed the teams present and the members of the organizing committee. Teams were requested to introduce themselves and mention their names and their universities. Members of the organizing committee were also requested to introduce themselves to the teams, indicating their role in the hackathon.

The following committee members and mentors introduced themselves to the teams;

1. Charles Olupot, Hackathon team Lead
2. Tom Tamale, Day Manager/Project Manager
3. Bonny Kagaba, Day Manager/Hackathon Coordinator
4. Rehema namutangula, Manager Incubation/ Industry Mentor
5. Susan Nalubega Daphine, Project Accountant
6. Sheila Kesiime, Project Accountant
7. Samson Akol, Industry Mentor
8. Solomon Opio, Industry Mentor
9. Solomon Kahuma, Industry Mentor
10. Juma Lubega, Internal Mentor
11. Simon Peter Latigo, Internal Mentor

2.2.3 Program Overview, housekeeping, and logistics

Mr. Bony Kagaba provided an overview of the two-day program by highlighting the time for hacking, Tea/coffee breaks, lunch/dinner breaks, progress review sessions, free times, mock pitching, final pitching and award ceremony (**Appendix 3**).

Mr. Olupot Charles, the Hackathon team lead explained the detailed program's structure to the teams and encouraged them to work towards ensuring that the key deliverables are ready at the time of final pitching. He informed teams that both internal and external mentors were available to support them during the hackathon. He shared the pitching guidelines (**Appendix 4**) and judging criteria (**Appendix 5**) with the teams to aid their preparations.

Mr. Solomon Opio presented to the teams the key deliverables of the two-day hackathon. The key deliverables presented included;

1. Work plan and progress report (should include key activities/tasks, deliverables, timeline and responsible team members)
2. Storyboard, wireframes (Personas, user stories, low and/or high fidelity designs, wireframes, and mockups among others)
3. Responsive/working mockups and/or prototypes
4. Pitch deck.
5. Mobile app.

Ms. Remmie Kirunda Namutangula, the Manager Incubation, welcomed the hackathon participants to the MUBS-EIIC. She gave a brief history of the MUBS-EIIC as an outreach unit of the School with a mission to promote entrepreneurship. She indicated that MUBS-EIIC has five main areas of focus: incubation, training, research, information dissemination, and consulting. She noted that the hackathon event is part of the innovation and incubation activities of the Centre. She also indicated that the Centre has hosted several hackathons before including a 48-hour innovation express. She wished everyone the best and thanked the participants and organizers for their major contributions and efforts. Furthermore, Remmie invited participants to dance to the MUBS-EIIC Centre Anthem, a popular song by Tatiana Manaois - "Like You" and encouraged the teams with the lyrics that they are strong, wise, and not perfect but there is no body like them.



2.2.4 Presentation of The Masters E-Supervision Web Portal

Mr. Juma Lubega and **Simon Peter Latigo** presented the e-supervision web portal to teams. The objective was to give teams a better understanding of its current functionality, the workflow process and the key users. The presenters wanted to provide the participants with a basic understanding of how the Web application worked and to make sure they understood the critical aspects to guide their mobile application design. Participants were guided through the process of signing into the portal, creating different users (including students, supervisors and administrators), the process of submitting and approving a topic, and assigning supervisors among others. Mr. Tom Tamale addressed the aforementioned difficulties and gave a general description of the research environment at Makerere University Business School (MUBS). The ineffective communication among students, teachers, and administrators was one of these problems. The strategy entails merging the web platform and the mobile application in an effort to lessen some of these difficulties. Teams were later given the opportunity to ask questions and were given responses to clarify on various process and technical aspects of application development.

Mr. Tamale Tom and Mr. Juma Lubega engaged the teams on a question and answer session. Team members sought clarification on several aspects including team access to the API, the web portal process flow, student accounts for teams to navigate the web portal, access to branding materials, and access to internet among others.

2.2.5 Team motivation by KNUST guest

A team from Kwame Nkrumah University of Science and Technology (KNUST), a public University in Ghana paid a curtesy call to MUBS-EIIC and were given the opportunity to motivate the teams. The team was part of the guests from the Center for Applied Research and Innovation in Supply Chain–Africa (CARISCA) who were visiting the MUBS-EIIC and the Faculty of Procurement and

Supply Chain Management at MUBS. The visiting delegation included Jesse Kwao, Anim, Stephen, Frimpong, Collins Dankwa, John Serbe, and Evans Kwasi. The leader of the delegation, Dr. Jesse Kwao encouraged the teams to aim higher and go global. He gave an example of how their University, 20 years ago, engaged them as students to come up with a student management system that later turned out to be very successful. He indicated that he had built over five (5) successful IT applications that are currently operating in many countries in Africa.

2.2.6 Hacking and Mentorship Support

Mr. Charles Olupot advised the teams to start working on their key deliverables. He re-introduced the mentors to the teams and encouraged the teams to make use of the members during the day and night. Teams were guided on how to develop work plans, storyboards, wireframes, mockups, responsive prototypes, pitch decks and mobile applications. The mentors that worked with the teams and provided technical support included;

1. Samson Akol, Industry Mentor
2. Solomon Opio, Industry Mentor
3. Solomon Kahuma, Industry Mentor
4. Juma Lubega, Internal Mentor
5. Simon Peter Latigo, Internal Mentor

2.2.7 Welcome Remarks

At 5:00pm, Prof. David Katamba officially welcomed all teams and organizing committee members and congratulated the organizers of the event for a job well done. He underlined that every team had an equal potential to succeed and wished them luck during the final pitch session that would take place the following day.



2.2.8 First progress review meetings

The first progress review meeting was held at 12:00pm. During this session, teams presented what they had done, and shared their challenges. During the progress review meetings, mentors provided feedback that was both constructive and insightful; they assessed prototypes of the applications, evaluating their functionality and responsiveness. They also delved into the clarity and persuasiveness of the pitch decks, ensuring that the teams effectively communicated their ideas. Constructive criticism was offered to address any shortcomings and inspire iterative improvements. The mentors also suggested solutions to some of the challenges faced by the teams in realizing the expected deliverables. The status of the five teams as per the first progress review session were as follows;

1. Viola Awor (Team Tukodinge) had created a work plan, storyboards, wireframes, mockups, responsive prototypes, pitch decks, and mockups. They had also started working on the mobile application,
2. Allan Amany Kayumbu (Team Hackers) had created the system's wireframe, user interface, and user processes.
3. Ronald Kimera's team had created a storyboard, work plan, and a portion of the pitch deck.
4. Augustine Beilel (Team Scholar Track) had completed the work plan, storyboard, wireframe, pitch deck, and prototype for all been completed.
5. Bob Wesonga (Team Ubuntu Kwanza) – the team that travelled from Mabarara in the afternoon and arrived late afternoon to start working. The teas received guidance from the mentors to help them come up to speed with the other teams.

2.2.9 Hacking and mentorship support

Using the feedback from the first progress review meeting, the teams continued working to develop and refine their Storyboards, wireframes, Responsive/working mockups and/or prototypes, pitch deck and mobile applications.

2.2.10 Second progress review session

The second review meeting was held from 5:00pm to 7:00pm.

Team Ubuntu, Team tukodinge, Team Hackers, and Scholar Track demonstrated their progress to the mentors who provided feedback on areas for improvement. The essential deliverables were a storyboards, wireframes, responsive mockups, prototypes and pitch decks among others. The key expectations from the second progress review meetings were;

1. To find out if the teams were on track
2. To find out if the teams grasped the challenge and were addressing strong problem statements.
3. To find out from each team the progress made in developing their pitch deck, prototype or mobile application.
4. To advise teams on the designs, workflow diagrams, and wireframes.

2.2.11 Hacking and mentorship support

Using the feedback from the second progress review meeting, the teams continued working to develop and refine their storyboards, wireframes, responsive/working mockups and/or prototypes,

pitch decks and mobile applications.

2.3 Day 2 hackathon activity summary (26/08/2023)

2.3.1 Hacking and mentorship support

From 12:00am to 8:00am, the teams continued working to develop and refine their storyboards, wireframes, responsive/working mockups and/or prototypes, pitch decks and mobile applications.

2.3.2 Final mock presentations and review session

The four teams made the final presentation and the mentors made the following observations;

1. **Team Tukodinge** had achieved 60% of their mobile application and had shown a responsive prototype
2. **Team Scholar Track** had worked on their work plan, storyboard, wireframe, pitch deck, prototype. They had achieved 60% of their mobile application
3. **Team Hackers** had worked on their mockups, and pitch deck and prototype. They had achieved 60% of their mobile application.
4. **Team Ubuntu** had completed developing their wireframe and had achieved 60% of the pitch deck.
5. Four (4) teams with a total of 16 participants were cleared to pitch to the panel of judges
6. The fifth team from Makerere University, led by Mr. Kimera was eliminated from the competition for leaving the hackathon in the afternoon without permission.

2.3.3 Overall mentor observations

The mentors made the following observations and recommendations to the teams:

1. **Continuous Improvement:** Teams were encouraged to persistently enhance their solutions, by refining and optimizing their concepts.
2. **Concept Refinement:** It was emphasized that teams should meticulously polish their concepts, ensuring they are robust and well-structured.
3. **Taking Action:** Participants were advised to translate their ideas into tangible actions, transforming their innovative thoughts into practical solutions.
4. **Learning Experience:** Even if not emerging as winners, the mentors emphasized that the knowledge and skills gained during the hackathon could serve as valuable assets for pursuing future opportunities.

3.0 FINAL PITCHING, JUDGING AND AWARDS

3.1 Judges briefing

The judges arrived at 10:00am and were ushered to a separate room for briefing as follows:

- 1) Prof. David Katamba, the overall project coordinator welcomed the judges and thanked them for accepting to come and serve as judges during the hackathon.
- 2) Mr. Charles Olupot informed the judges that:
 - a. Five teams were selected to participate in the final hackathon.
 - b. One team was dropped because they left the hackathon on Saturday afternoon.
 - c. Pitching guidelines were developed and shared with the participants.
 - d. The judging criteria and evaluation tool was developed and shared with the Judges on mail earlier.
 - e. The online version of the judging criterial and evaluation tool was developed.
 - f. The judges would use tablets for scoring the teams during pitching.
 - g. Paper versions would be provided to the judges as a fallback position in case of technical glitches.
 - h. Each team would pitch for five (5) minutes and five (5) minutes would be used for responding to judges' questions. The judges recommended that additional time should be provided to the teams to clarify of key issues during the question time.
- 3) Mr. Charles Olupot and Mr. Tom Tamale guided the judges on the pitching process, the team pitching guidelines (**Appendix 4**), judging criterial (**Appendix 5**) and judging evaluation forms.
- 4) Mr. Charles Olupot and Mr. Joshua Karuhanga demonstrated to the judges how to use the online version of the Judging criteria/Evaluation tool.
- 5) It was noted that the team would aggregate scores from individual scores of the judges and rank the teams according to their total average score.
- 6) The following individuals participated in the briefing:
 - a. Judges
 - i. **Prof. Laura Orobias Aseru**, PhD - Deputy Dean, Faculty of Graduate Research Centre, MUBS
 - ii. **Dr. Godfrey Mayende**, PhD - Deputy Director, at the Institute of Open Distance and eLearning, MUK.
 - iii. **Dr. Deborah Natumanya**, PhD - Lecturer and a researcher in department of computer science, MUST.
 - iv. **George Ebine**, Senior Higher Education Officer, National Council for Higher Education (NCHE).
 - v. **Joshua Akandwanaho**, IT Services Expert at the National Information Technology Authority of Uganda (NITA-U).
 - b. Organizing Team:
 - i. Prof. David Katamba, Overall Project Cordinator
 - ii. Mr. Charles Olupot, Director ICT Centre, MUBS
 - iii. Mr. Tom tamale, Project Manager
 - iv. Mr. Joshua Karuhanga, MUBS Entrepreneurship, Innovation and Incubation Centre
 - v. Ms. Mabel Kemigisha Mboizi, ICT Centre, MUBS



3.2 Pitch sessions

3.2.1 Welcoming participants to take their seats

Participants were welcomed as follows;

- 1) The room was setup to make it suitable for the final pitching session at 11:00pm.
- 2) Teams, invited guests and the judges were unshared to the pitching room to take their seats at 12:00pm.
- 3) The MC welcomed participants to the final pitching hackathon.
- 4) Brief videos about the teams and the ICT-4MRPQ Project Hackathon were played to participants.

3.2.2 Welcome remarks

Mr. Charles Olupot, Director ICT Centre and Ms. Remmie Kirunda Namutangula, the Manager Incubation were the final pitching session managers. Mr. Olupot welcomed the teams, the mentors, the organizing team, the judges and invited guest to the final pitching session. He thanked the teams, mentors and the organizing team for their hard work for the last two days.



3.2.3 Introducing the Judges

Mr. Charles Olupot introduced the judges (**Appendix 6**) for the hackathon final pitching as follows:

- 1) Prof. Laura Orobia Aseru
- 2) Dr. Godfrey Mayende
- 3) Dr. Deborah Natumanya
- 4) George Ebine
- 5) Joshua Akandwanaho

Mr. Charles Olupot noted that the judges were selected because of the vast expert knowledge and experience in ICT and /or Research. He thanked each of the judges for accepting to come and participate as a judge in the ICT-4MRPQ project's Mobile Application Development Hackathon.

3.2.4 Welcome remarks by Manager Incubation

Ms. Remmie Kirunda Namutangula thanked the teams for participating in the hackathon. She introduced herself as the Manager, Incubation under the MUBS Entrepreneurship, Innovation and Incubation Centre (EIIC). She indicated that the MUBS-EIIC is an outreach unit of the School devoted to fostering entrepreneurship. She also indicated incubation, training, research, information dissemination, and consulting as the key activities of the Centre. She noted that the Centre was glad to host the hackathon and thanked Prof. Katamba for choosing the Centre to host the hackathon.



3.2.5 Introducing the teams

Ms. Remmie Kirunda Namutangula introduced the four teams to the judges. The teams introduced include Hackers Team, Scholar Tracker, Tukodinge, and Ubuntutu Kwanza. She made a special recognition of the Ubuntu Kwanza team for their resilience and determination to participate in the hackathon as they had made it to the event late. She thanked the team for their commitment to the noble cause.

3.3 Pitching by Teams

Ms. Remmie Kirunda Namutangula invited the teams to make their pitches. She informed them

that they had five 5 minutes to present their pitch and five minutes for the judges to ask questions. The teams were invited to present their pitches in the following order.

3.3.1 Team Hackers

Hackers was the first team to be invited to pitch their solution (Appendix).

The following judges' questions and team responses are indicated in the table below;

Table 1: Judges comments and Team Hackers Response

No.	Judges Question/ comment	Team response /Feedback
1	Can you add more information on how the system is going to be secure?	We shall be hosting a google firebase and it is what we are planning to use in case we continue with the system
2	How sustainable is the project?	The application was developed with the least long time expiring date
3	Explain more about the issue of compatibility especially in terms of RAM and ROM.	
4	What types of files can be loaded on the system and what is the maximum size of the files to be uploaded on the system?	All document files, power points, picture files, and PDFs will be accepted by the system
5	Does the system have an offline mode?/Does the system give an automatic save or?	Yes we can accept offline mode which will be saved as a draft at first then after sent out when you get to access the internet
6	How do students receive notifications?	The system has notifications that are connected to the email and this will also help in tracking.
7	What access security feature does this application have?	The app has no register system because if the administrator that registers you to be able to access the app
8	What are the plans for scaling up the app according to the huge database?	All data will be stored on the firebase.
9	What if one has forgotten the password, how do they retrieve that?	fire base provides a password method that you can use to generate the new password easily with your email.
10	What about backing up the data?	We are sure that it is safe and backup is done by google
11	Given the opportunity, how long will it take you to conclude on the project?	Four months will be the estimated time for the team to conclude on the project.

3.3.2 Team Scholar Track

Scholar Track was the second team to be invited to pitch their solution (Appendix).

The following judges' questions and team responses are indicated in the table below;

Table 2: Judges comments and Team Scholar Track Response

No.	Judges Question/ comment	Team response /Feedback
1	One Judge liked the webcam feature on the app developed by the team	
2	What does the team have to say about scalability and sustainability?	We host amazon web services and it does auto scaling.
3	What types of files can be loaded on the system and what is the maximum size of the files to be uploaded on the system?	File compression techniques should also be used to avoid uploading heavy files.
4	How will you cater for the growing volumes of data as time passes by?	As the users/ data increase in size, they also auto-scale
5	When a person is a new applicant, how do they log into the system?	The university is responsible for this using the institutional email and password given to you
6	Given the opportunity, how long will it take you to conclude on the project?	The project can take the team 3 months
7	Is amazon free of charge?	No it is not, it just gives an offer at the start then after one has to pay for it when upgrading.
8	In terms of integration, what means are you going to use to integrate the main system that is already running and the application?	We shall use the API of a particular institution so it picks information from the database of that institution in a secure way which in turn helps them to integrate the two.
9	Where do you intend to host the data or information?	We shall use the amazon web applications.

3.3.3 Team Tukodinge

Tukodinge was the third team to be invited to pitch their solution (Appendix).

The following judges' questions and team responses are indicted in the table below;

Table 3: Judges comments and Team Tukodinge Response

No.	Judges Question/ comment	Team response /Feedback
1	During the research, we tend to find issues between students and the supervisors, how do you intend to cater for such an issue here?	We have an interesting component in our application and therefore that is already catered for.
2	How are you going to deal with the resources you can't access now?	Some resources have been paid for and therefore it's the school's responsibility to ensure that they avail you with this information.
4	When supervisors give comments, are they retained, captured or they just disappear?	All comments are displayed in the application and also goes to the emails of both the student and the supervisor.
5	Which experiences do your team members have?	The presenter was able to present all the experiences of all the team members

6	Tell us more about the security issues and the scalability?	We shall make sure that we integrate all the info and that it is encrypted. About scalability our app is open to integration and also we shall look at resource optimization too.
7	Let's hear about the financials in regards to the app?	We came up with the rough estimate about the app
8	Talk about the two factor authentication?	We have a back end team that can help in implementing all this.
	What tracking system do you have on supervisors and students?	

3.3.4 Team Ubuntu Kwanza

Ubuntu Kwanza was the forth team to be invited to pitch their solution (Appendix).

The following judge's questions and team responses are indicted in the table below;

Table 4: Judges comments and Team Ubuntu Kwanza Response

No.	Judges Question/ comment	Team response /Feedback
1	In terms of integration, what means are you going to use to integrate the main system that is already running and the application?	We have a centralized place for keeping this database and since we shall use APM servers, we shall still get the same database and this will ease the integration
2	How secure is the app?	We shall use google platforms and fire walls to cater for security
3	We want to hear the part about compatibility with other devices?	We are using flutter that is compatible with most devices
4	How do you intend to do away with the outsourcing of research?	Authorization is emphasized here
5	The team was advised to get a project manager, and an advisor,	

3.4 Judges' deliberations

After the pitching sessions, judges retreated to a separate room to deliberate on the final results. The judges unanimously agreed to confirm the results as presented and appended their signatures on both individual judge scores and aggregated Average Judges scores (Appendix 7). Judge Prof Laura Orobia was nominated to chair and speak on behalf of the judges and announce the final results. The final evaluation Ranking is indicated below;

Table 5: Team Ranking based on average scores of the Judges

No.	Team	Team Leader	University	Final Position
1	Scholar Track	Augustine Beilel	MUST	1
2	Ubuntu Kwanza	Bob Wesonga	MUST	2
3	Tukodinge	Viola Awor	MUBS	3
4	Hackers	Allan Amanya Kayumbu	MAK	4



3.5 Announcing of final pitching results

The Day Manager, Mr. Bonny Kagaba welcomed the judges back from deliberations. He invited the mentors to give their final remarks to the teams before the announcement of the final results of the hackathon.

3.5.1 Remarks by the External Mentors

Mr. Samson Akol and Mr. Solomon Opio appreciated the teams for their hard work and dedication during the hackathon. They noted that participating in the hackathon was a learning process and that the teams should take lessons and use them to improve themselves.



3.5.2 Remarks by Prof. David Katamba

The Day Manager, Mr. Bonny Kagaba welcomed Prof. David Katamba to give his remarks. Prof. Katamba welcomed the Principal, MUBS and thanked the judges for accepting to come and participate in the hackathon. He also thanked the organizing committee for the work well done. He introduced the judges to the Principal and invited the lead judge, Prof. Laura Orobias to give judges' remarks and present the final results of the hackathon.

3.5.3 Remarks by the Lead Judge, Prof. Laura Orobias

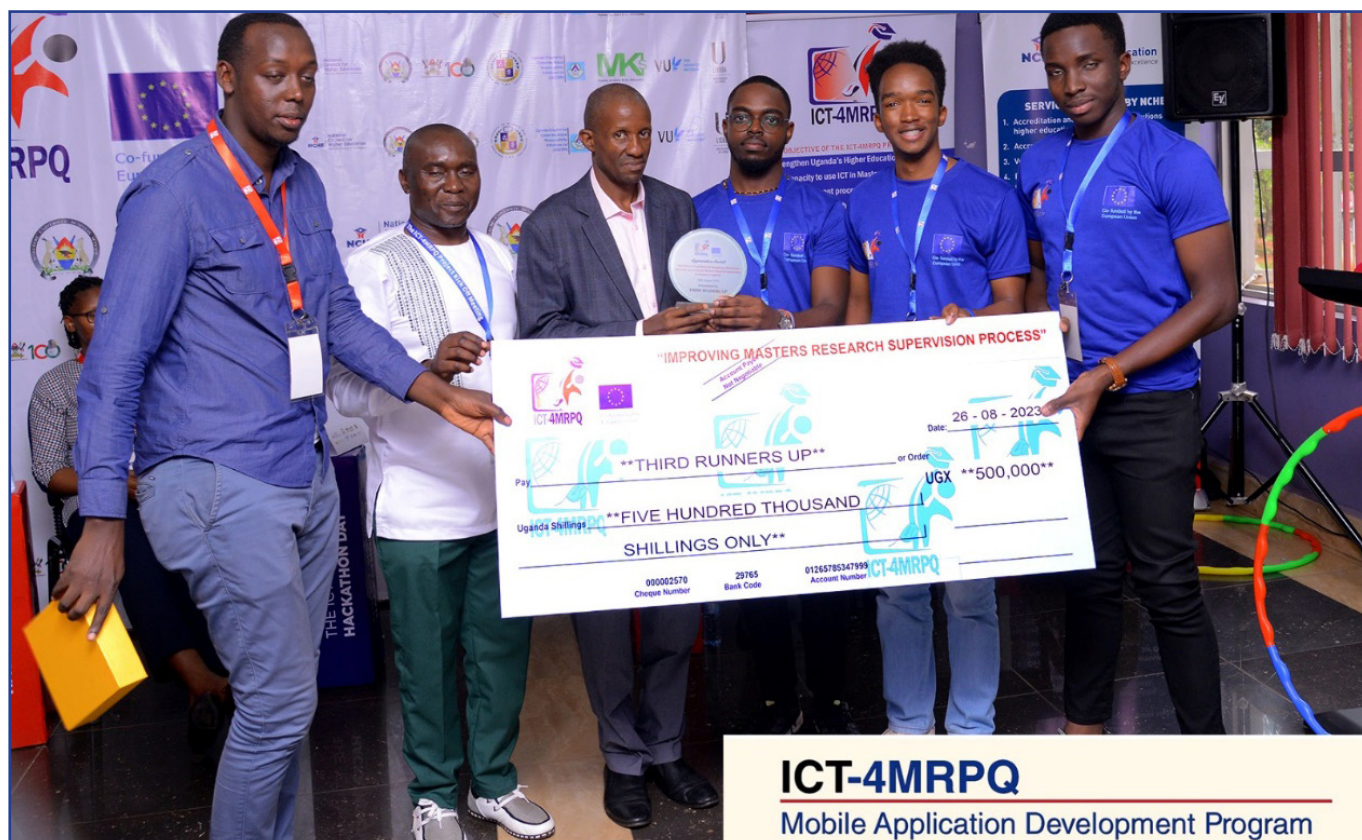
Prof. Laura thanked her team for the work well done. She also thanked Prof. Katamba and the organizing team for the work well done. She thanked the Principal for coming to award the winners of the hackathon. She also stated that the judges were amazed by each team's creative thinking, innovation, and uniqueness. She further thanked the mentors for their hard work and the judges for accepting to participate.

3.5.4 Announcing of results and handing of awards ascending order

The lead judge, Prof. Laura Orobias informed teams and participants that the winners would be announced in ascending order beginning with the fourth position and ending with the overall winners. She indicated that the judges would award the fourth, third and second positions while the Chief Guest, Prof. Moses Muhwezi would award the overall winners.

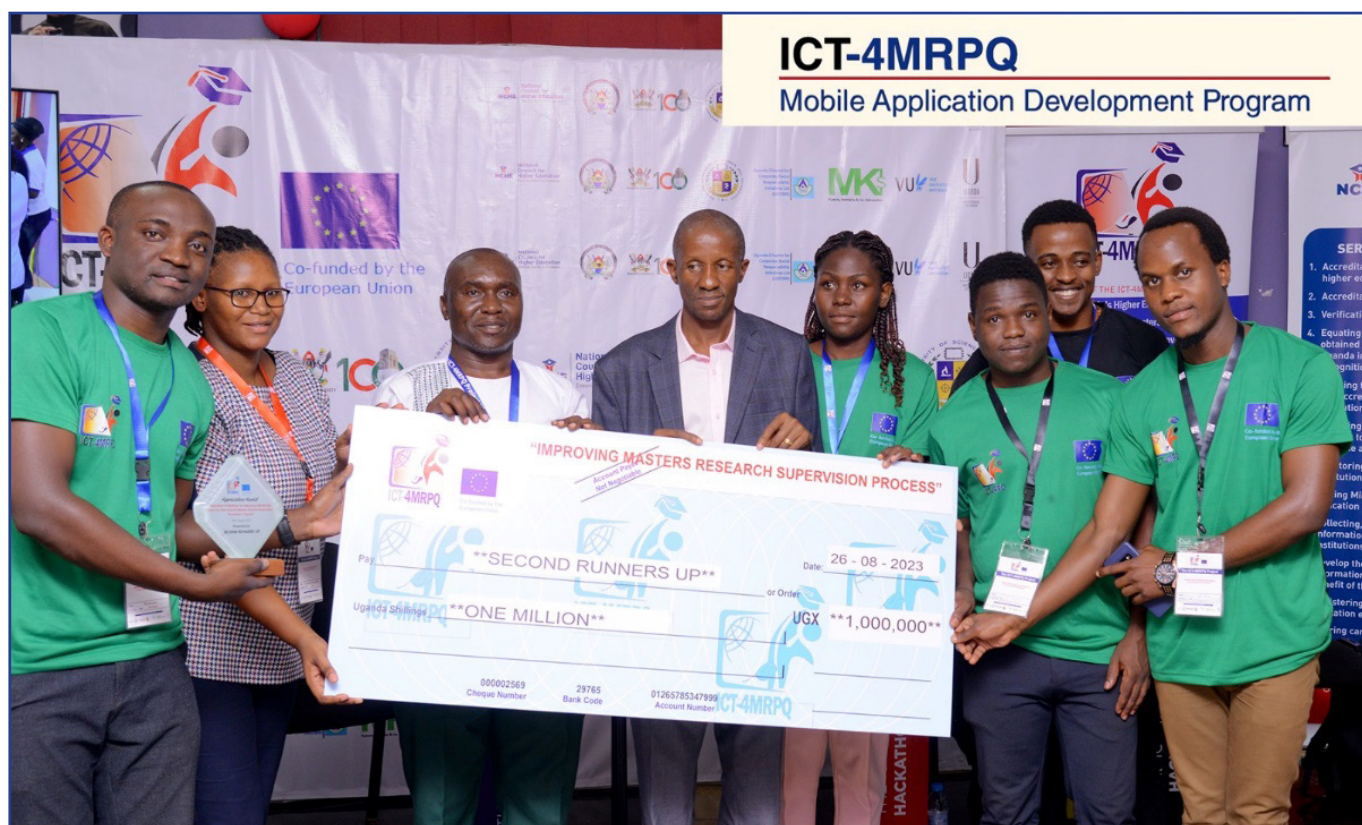
3.5.5 Third Runners up position

Prof. Laura Orobias announced the Third Runner up as Team Hackers led by Allan Amanywa Kayumbu from Makerere University (MUK). The team was awarded by Mr. Joshua Akandwanaho who presented a dummy cheque of 500,000/- (Five Hundred Thousand Shillings Only) and a plaque.



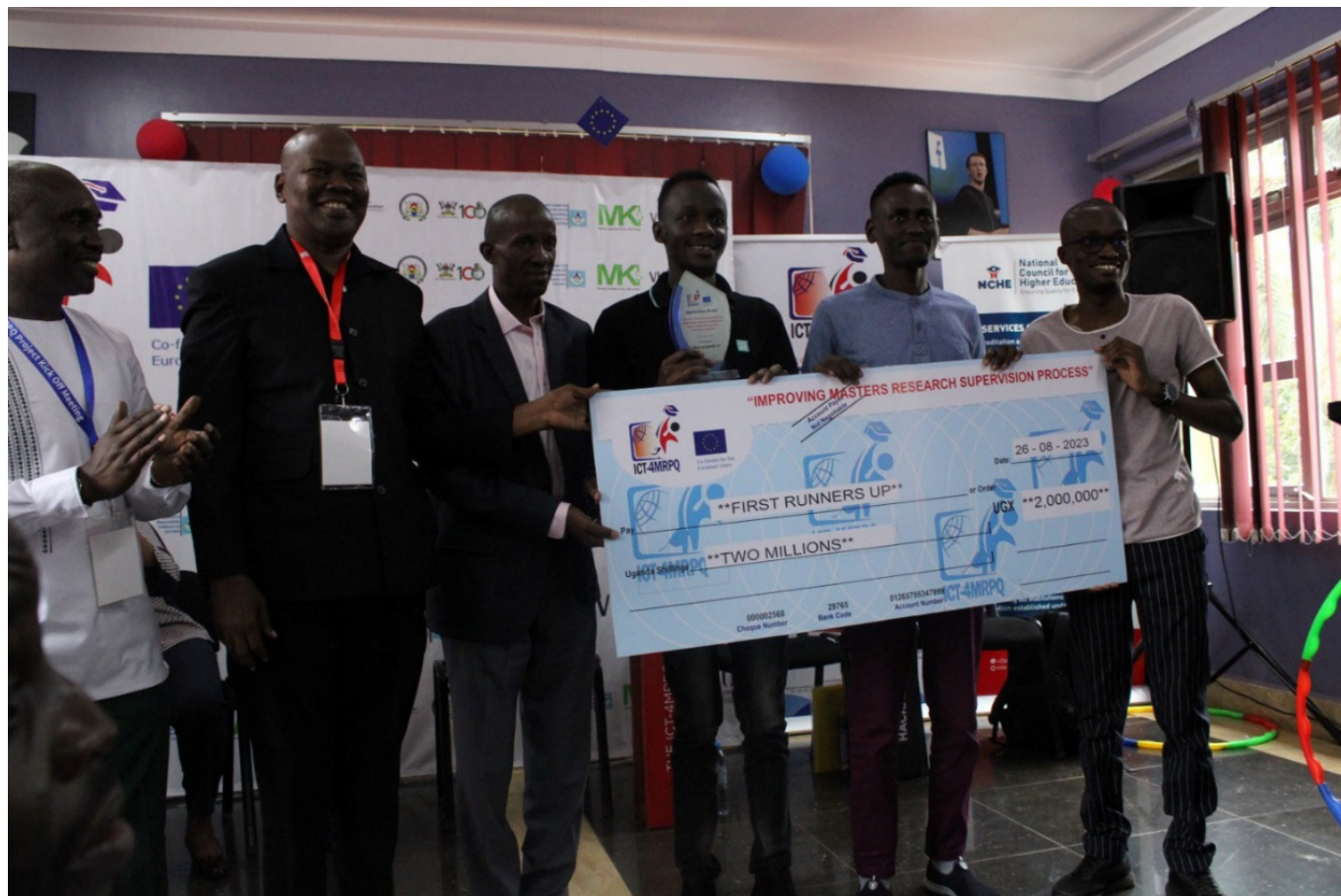
3.5.6 Second Runner up positions

Prof. Laura Orobia announced the Second Runner up as Team Tukondige led by Viola Awor from Makerere University Business School (MUBS). The team was awarded by Dr. Deborah Natumanya who presented a dummy cheque of 1,000,000/- (One Million Shillings Only) and a plaque.



3.5.7 First Runner up position

Prof. Laura Orobia announced the First Runner up as Team Ubuntu Kwanza led by Bob Wesonga from Mbarara University of Science and Technology (MUST). The team was awarded by Mr. George Ebine who presented a dummy cheque of 2,000,000/- (Two Million Shillings Only) and a plaque.



3.5.8 Overall Winner position

Prof. Laura Orobia announced the Overall Winner as Team Scholar Track led by Augustine Beilel from Mbarara University of Science and Technology (MUST). The team was awarded by Prof. Moses Muhwezi, the Ag. Principal MUBS, who presented a dummy cheque of 4,000,000/- (One Million Shillings Only) and a plaque.

3.5.9 Presentation by the overall winning Team

After the award, Prof. Katamba requested Scholar Track, the overall winners to present their solution in the presence of the Chief Guest, Ag. Principal – Prof. Muhwezi. This team is composed of 5 team members namely Mr. Augustine Beilel, Mr. Vincent Ainemukama, Mr. Ambrose Turyamuhaki, Mr. Joseph Mukibi, and Ms. Babra Kyasiimire.





3.6 Awarding of certificates to the judges

Prof. David Katamba, the overall project coordinator awarded certificates to each of the five judges.

- 1) Prof. Laura Orobias Aseru, Deputy Dean, Graduate and Research Centre, MUBS.



- 2) Dr. Godfrey Mayende, Deputy Director, at the Institute of Open Distance and eLearning, Makerere University.



- 3) Dr. Deborah Natumanya, Lecturer and a researcher at the department of computer science, MUST.



- 4) George Ebine, Senior Higher Education officer at National Council for Higher Education (NCHE).



- 5) Joshua Akandwanaho, IT Services Expert at the National Information Technology Authority of Uganda (NITA-U).



3.7 Key note address and closing remarks by the Principal, MUBS.

Prof. Katamba invited the Ag. Principal, Professor Moses Muhwezi to give a key note address and close the hackathon. Prof. Muhwezi congratulated Prof. Katamba and the organizing team for their steadfast dedication and recognized their commitment demonstrated by staying up all night. He emphasized the problem of master's students struggling to finish their studies on time or dropping out due to the pressure and delays caused by their dissertation papers. He implored the audience to support applications that might not have ultimately been chosen as winners, and urged the teams to prioritize skill improvement and foster a culture of competition. He further thanked the teams for participating in the event and for making a contribution to the improvement of graduate research at institutions of higher learning. The Ag. Principal made special recognition of Ms. Rehemie Namutagula, the Manager Incubation for her good work in promoting innovation and incubation, and indicated that she has a unique way of getting things done. He encouraged the teams to continue innovating and find solutions to societal challenges. The Ag. Principal extended his gratitude to everyone who helped make the occasion a success and declared the hackathon closed at 3:30pm.



3.8 Implementation of Mobile Application and disbursement of award funds

Prof. David Katamba expressed gratitude to the principal for honoring the event with their presence. He also extended his appreciation to the participants and the organizing committee for their commendable efforts. Prof. Katamba highlighted that all team leaders are required to provide their bank account details, along with a plan for distributing the prize money among their team members. This information would have been submitted within a week. He also assured that all winners would receive their respective prize amounts by September 21, 2023.

Prof. David Katamba mentioned that the team selected to undertake the project would need to sign an agreement (**Appendix 8**) which would be shared with them by Director Charles. The selected team would have a two-week period to thoroughly review and understand the agreement. Participants were reminded to collect their transportation allowances before leaving the Hackathon venue.

3.9 Group Photo moments

The teams and organizing committee were invited for a photo shoot with the Chief Guest and the judges.





4.0 Appendices

Appendix 1: Call for Applications



Extended Call for applications to Participate in the Mobile App Development Hackathon (Applicants who responded to the previous call **DO NOT** need to reapply)

1. Are you a current student or recent graduate of computer science, software engineering, business computing, IT or IS or closely related courses from Makerere University, Mbarara University of Science and Technology, or Makerere University Business School?
2. Do you have the skills and experience in mobile application development?
3. Do you have 3 or 4 team members from one or more of the three participating Universities of Makerere University, Mbarara University of Science and Technology, and Makerere University Business School who are willing to work with you on mobile Application development project? *(IT IS NOT A REQUIREMENT FOR ALL TEAM MEMBERS TO BE AFFILIATED TO ALL THE 3 UNIVERSITIES. Teams with members from ONLY one University can apply).*
4. Are you willing and able to team lead a mobile application development project?

We are looking for you!

Please apply to participate in the ICT- 4MRPQ Mobile App Development Challenge using the link below;
<https://forms.gle/dcCkprSlqcYafpVH6>

Important dates

- Announcing extended call for Application: **July 01, 2023**
- Deadline for extended call for application: **July 31, 2023**
- Evaluating and selecting successful teams: **August 1st, 2023**
- Announcing successful teams: **August 02, 2023**
- Pre-Hackathon information session: **August 18, 2023**
- Hackathon event: **August 25-26, 2023**
- Commencing Implementation of masters e-Supervision mobile App: **August 28, 2023**

AWARDS TO BE GIVEN TO WINNERS

	UGX	Euros
1st position	4,000,000	1,000
2nd position	2,000,000	500
3rd position	1,000,000	250
4th position	500,000	125
5th position	500,000	125

For more information

Visit <https://ict-4mrpq.uccsri.com/>.

The challenge aims at Strengthening Capacity for ICT Usage and Policy Reforms for Relevant and Quality Masters Research Process Management in Uganda's HEIs.

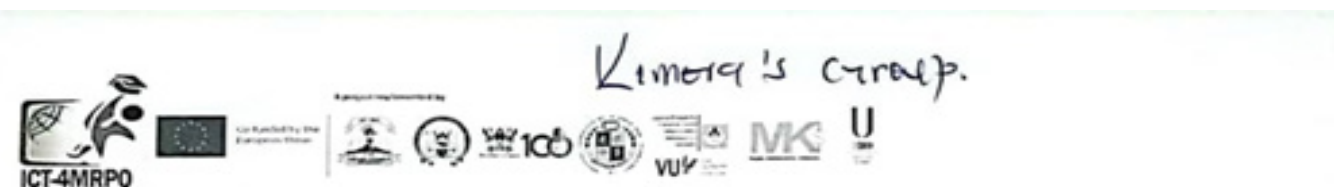
Appendix 2: Teams and Participant Registration

a) Team participant Registration



Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	AUGUSTINE BEILEL	TEAM LEADER	MUST	1256 77120275	beilel.augustine20@gmail.com	
2	ABEINEMUKAMA VICENT	FULLSTACK DEVELOPER	MUST	0763355965	abeinemukama@gmail.com	
3	KYASHIMIRI BABRA	FINANCE MANAGER	MUBS	0786576385	babrah.kyashimiri@gmail.com	
4	TURYAMUHAKI AMBER	Graphics/UI Designer	MUK	0756140993	turyamuhakiamber@gmail.com	
5	MUKIBI JOSEPH	Full Stack Developer	MUST	0730440865	mukibi.joseph19@gmail.com	
6						



Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	Kimeru Ronald	Participant	Makerere	0755924751	rkimeru2013@gmail.com	
2	Sam Rubaroma	Participant	Mak	0754063200	samrubaroma@gmail.com	
3	ONGEBO ISAAC	Participant	Mak	0776203798	isaccongebo@gmail.com	
4						



Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	WESOKHA BOB	TEAM LEADER	MBARARA UNIVERSITY OF SCIENCE & TECHNOLOGY	0785711337	wesokhabob@yahoo.com	
2	SIEMBA ERNEST OBOO	MEMBER	MBARARA UNIVERSITY OF SCIENCE & TECHNOLOGY	0748777666	bernemba@gmail.com	
3	MAYANJA ROBERT	MEMBER	MBARARA UNIVERSITY OF SCIENCE AND TECH	0766727805	mayanjabob131@gmail.com	
4						



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TUKODINGE

TC

Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1						
2	BENEDICT OGOT	Participants	MUST	0700163939	benedictosvet@gmail.com	[Signature]
3	KIASWA SIMON PETER	Participants	MUBS	0706866585	simonpeter720@gmail.com	[Signature]
4	MUKAVUTA ROGER	Participants	M AK	073128661	mukavuta@gmail.com	[Signature]
5	GYAGENZA MORTIM	participants	MUBS	0701861253	mortimggyagenza@gmail.com	[Signature]
6	NIGWA ANWAR	participants	MUBS	0774655516	anwarolaz@gmail.com	[Signature]
7						



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Group TH

Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	MUSOMBA MATTHEW EDWA	TEAM MEMBER	MAKERERE UNIVERSITY	075801803	edgarmatthew247@gmail.com	[Signature]
2	BIRUMUTARASO ROBERT	MEMBER	MAKERERE UNIVERSITY	0762884933	birumutarasorob@gmail.com	[Signature]
3	AMANYA ALLAN KAYUMBU	TEAM LEADER	MAKERERE UNIVERSITY	0759209214	allanalmaya25@gmail.com	[Signature]
4						

b) Guest registration and organizing team registration



Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	TAMALE TOM	Technical Advisor	MUBS	0702323654	ttamale@mubs.ac.ug	[Signature]
2	Nalubea Susan	Secretariat	MUBS	0700446398		[Signature]
3	Changela Babin	Media	MUBS	0701992145	changela@mubs.ac.ug	[Signature]
4	Nanyenda Musamwa	Media	MUBS	0752246368	nanyenda@mubs.ac.ug	[Signature]
5	Kagame Bony	Coordinator	MUBS	070873777	Lkagame@mubs.ac.ug	[Signature]
6	Olivia Nabwire	Doc & Communication	MUBS	0782523977	olivia@mubs.ac.ug	[Signature]
7	Kibuka Babin Sally	media	MUBS	0759897957	kibuka@mubs.ac.ug	[Signature]
8	Nassali Sarah	Secretariat	MUBS	0707520298	snassali@mubs.ac.ug	[Signature]
9	Musungu Ivan Pitso	Media	MUBS	0782754250	imusungu@mubs.ac.ug	[Signature]
10	Remmie Namubanga	Mentor	MUBS	0772323030	Karenmide@mubs.ac.ug	[Signature]



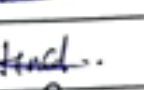
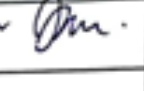
Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	Godfrey Nanyendo	Judge/Team member	MAK	0702913821	godfrey.nanyendo@gmail.com	[Signature]
2	George Kibie	Judge	NCTE	0742492784	gabriel.kibie@gmail.com	[Signature]
3	Betty Bukemwa	Partner	NCTE	0705182052	bettybukemwa@gmail.com	[Signature]
4	Nasho Kabakanga	Journalist	Daily Monitor	0740623874	nasho.kabakanga@gmail.com	[Signature]
5	SIMON KABAYO	Journalist	Eagle Online	0781636848	kabayosimon@gmail.com	[Signature]
6	Mubhe John William	Journalist	NTV	0774553420	johnmubhe@ntv.co.ug	[Signature]
7	OYIYA CHRISTINE	NURSE	MUGS	0789807271	tinakabakanga@gmail.com	[Signature]
8	Deborah Hartmann	Judge	MUST	0700649348	deborah.hartmann@gmail.com	[Signature]
9	Mugerwa Jonathan A.A.	A.A.	ETIC	0730535355	jmugerwa@mubs.ac.ug	[Signature]
10	Joy Tiko	T.A	MUBS	0782264007	jtiko@mubs.ac.ug	[Signature]

Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	Moses Nuhwizi	MUBS Principal	MUBS	0772504011	muhwizi@mkbs.ac.ug	
2	KIKONYIRO DENIS	Coordinator	Uganda Chapter	0752586977	denisk@mkbs.ac.ug	
3	MUSASIRI DENIS	Photographer		0752563908	musasiri.denis@gmail.com	
4						

Registration for attendance of the Hackathon event for development of the Masters research e-supervision mobile APP held on August 25 to 26, 2023 at Makerere University Business School

No	Name	Role	Institution	Telephone contact	Email Address	signature
1	Solomon Opio	Master	MUBS MHC (External)	0732252992	solomonopio@gmail.com	
2	DENIS KIKONYIRO	Coordinator	Uganda Chapter	0752586977	denisk@mkbs.ac.ug	
3	NAMASINGA DOROTHY	NURSE	MUBS	0758134570	dorothyamasinga@gmail.com	
4	OYILA CHRISTINE	NURSE	MUBS	0754171526 0739207271	tinaokabos@gmail.com	
5	Musungu Zuma	Udographer	MUBS	0782734250	pmusungu@gmail.com	

Appendix 3: Final Hackathon Program

ICT-4MRPQ Project Mobile Application Development Hackathon program 25-26 August 2023

TIME	ACTIVITY	RESPONSIBLE
Day	DAY 1: Friday 25th August 2023	
8:00 AM	Participants registration – Online registration form	Day Manager
8:25 AM	Participants take their seats – Teams, coordinators, and mentors	Day Manager
8:30 AM	Participant introductions – Welcome remarks and self-introductions	Manager Incubation / Day Manager
8:50 AM	Hackathon programme overview – Programme overview, housekeeping and logistics	Director ICT Centre / Manager Incubation
9:00 AM	Presentation of the Masters E-Supervision Web Portal Key deliverables and timelines – Key deliverables: 1. Work plan and progress report (should include key activities/tasks, deliverables, timeline and responsible team members) 2. Storyboard, wireframes (Personas, user stories, low and/or high fidelity designs; wireframes, mockups etc) 3. Responsive/working mockups and/or prototypes 4. Pitch deck 5. Mobile app.	Mentor (Juma Lubega) Mentor (Simon Peter Latigo) Mentors (Solomon Kahuma)
9:30 AM	LET THE HACKING BEGIN! – Teams start working on developing Work Plans, Storyboards, Wireframes, mockups, responsive prototype, pitch decks and a mobile application	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
10:30 AM	Tea/Coffee Break – Coffee/Tea is served	Day Manager
11:00 AM	Official hackathon opening remarks – Welcome remarks and overview of ICT-4MRPQ Project	Project Coordinator Prof. David Katamba
11:20 AM	Progress review meetings – Teams present their work plans to mentors for feedback and approval	Mentors (Solomon kahuma)
11:45 AM	HACKING TIME	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
1:00 PM	Lunch – Lunch is served for 1 hour	Secretariat

TIME	ACTIVITY	RESPONSIBLE
2:00 PM	HACKING TIME	Mentors: 1. Solomon Kahuma (External)2. Solomon Opio(External)3. Samson Akol (External)4. Juma Lubega (Internal)5. Simon Peter Latigo (Internal)
5:00 PM	Progress review meetings – Teams present progress made to mentors for feedback (key deliverables should include storyboard, wireframes, responsive mockups, prototypes etc)	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
7:00 PM	Free time – Teams free time to exercise and freshen up	Day Manager
8:30 PM	Dinner – Dinner is served	Secretariat
9:00 PM	HACKING TIME (Progress reports, prototypes or mobile application and a pitch deck	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
10:30 PM	Progress review meetings – Teams present progress made to mentors for feedback (key deliverables should include either responsive prototypes or mobile application, and pitch deck)	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
	Tea/Coffee Break – Coffee/Tea/energy drinks and bites available throughout the night	Secretariat
Time	DAY 2: Saturday, 26th August 2023	
12:00 AM	HACKING TIME (progress reporting,populating a pitch deck, responsive prototype or mobile Application)	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
	Tea/Coffee Break – Coffee/Tea/Energy drinks and bites available available throughout the night	Secretariat
6:00 AM	Free time – Teams free time to exercise and freshen up	Day Manager
8:00 AM	Mock presentations – Pitch deck and Mobile App prototype demonstrations	Mentors (Solomon Opio)
9:00 AM	HACKING TIME – Final touches on the pitch deck and working Mobile App prototype	Mentors: 1. Solomon Kahuma (External) 2. Solomon Opio(External) 3. Samson Akol (External) 4. Juma Lubega (Internal) 5. Simon Peter Latigo (Internal)
	Tea/Coffee Break – Coffee/Tea is served	Secretariat

TIME	ACTIVITY	RESPONSIBLE
9:30 AM	Final mock presentations – Final Pitch deck and Mobile App prototype	Mentors: 1. Solomon Kahuma (External)2. Solomon Opio(External)3. Samson Akol (External)4. Juma Lubega (Internal)5. Simon Peter Latigo (Internal)
10:00 AM	Teams get set – Final pitch deck editing and testing of equipment to be used during presentations for proper display (output) of pitch decks and final prototypes	Mentors (Solomon Opio)
11:00 AM	Submission of final pitch decks – Teams submit their final pitch decks	Secretariat (Mable Kemigisha)
11:30 AM	Hacking Ends – Teams finalize and move to the final pitching room	Day Manager
11:45 PM	Teams invited guest take their seats in the final pitching room	Day Manager
12:00 PM	PITCH SESSIONS – all teams will have 5 Mins to present their hacks to the judging panel and other 5 Mins for Question and Answer. Key deliverables: 1). <i>Pitch</i> , 2). <i>A working Prototype/Mobile Application</i>	Director ICT Centre / Manager Incubation
1:00 PM	The judges retire to decide the winners – Coffee/ Tea break and Musical Interlude	Director ICT Centre / Secretariat (Mable Kemigisha)
1:20 PM	Remarks by overall Project coordinator Remarks by Director, MUBS-EIIC Key Note Speech – Principal, MUBS	Director ICT Centre / Manager Incubation
1:45 PM	Announcing Winners and Prize Awarding MUBS Principal/NCHE/MUK/MUST	Director ICT Centre / Manager Incubation
2:00 PM	Closing remarks and group photo,	Project Co-ordinator - Professor Katamba
2:15 PM	Lunch, networking and departure at leisure	Secretariat

Appendix 4: Pitching Guidelines



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ICT-4MRPQ PROJECT MOBILE APPLICATION DEVELOPMENT HACKATHON SATURDAY AUGUST 26, 2023

PITCH DECK AND PITCHING GUIDELINES FOR TEAMS

A total of 5 teams will pitch their mobile Application solution to the judges according to the pitch deck guidelines. Each team will be given a maximum of 10 Minutes (5 Minutes for presentation and demonstration, and 5 Minutes for Q&A Session with the judges)

SNO.	Evaluation Criteria	Evaluation Aspects
1	The Problem/ Opportunity	Describe the challenge/gap/problem/Opportunity that your team hopes to address with the designed Mobile Application
2	Technical approach and methodology	Use this slide(s) to highlight; a. Technical approach and methodology behind your proposed Mobile Application (Include details of technology used and why? b. Indicate unique features or functionalities for your solution if any?
3	How the solution/ application works (UI/ UX)	a. <u>Explain the quality and design of your application by demonstrate how your solution /application works.</u> b. Show how creatively your team has applied the User Interface (such as buttons, icons, menu bars, typography, colors, etc.) and User Experience (when interacting with your application) c. Demonstrate how your application is simple and easy for all stakeholders to use
5	Team composition and expertise	Indicate what makes your team to standout including; a. Pictures of team members b. Roles of team members in the project c. Education background d. Relevant previous experience
5	Implementation	Indicate what your team requires to implement the application in terms of; a. Time? b. Financials? c. Technical expertise (not within the team) if any?

Appendix 5: Judges Judging Criteria



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ICT-4MRPQ PROJECT MOBILE APPLICATION DEVELOPMENT HACKATHON SATURDAY AUGUST 26, 2023

JUDGING CRITERIA

A total of 5 teams will pitch their mobile Application to the judges. Each judge will score each team based on specified judging criteria and scores.

SNO.	Evaluation Criteria	Evaluation Aspects	Score
6	The Problem/ Opportunity	Does the problem/opportunity align with the main objective of the ICT-4MRPQ project: <i>To strengthen Uganda's Higher Education Institutions (HEIs) capacity to use ICT in Masters' research journey quality management processes....? (5)</i>	5
7	Technical Approach and Methodology.	Is the Technical approach and methodology adopted by the team; c. Innovative? (5) d. Feasible/functional? (5) e. Sustainable? (5) f. Scalable? (5) g. Secure? (5)	25
8	How the Solution/ Application works: Quality and design of the application(UI/UX)	a. Is the design of the application creative? (5) b. Is the user interface (such as buttons, icons, menu bars, typography, colors, etc.) well designed and appropriate for the target user? (5) c. Did the team put thought into the user experience by making user interaction simple and easy for the user? (5)	15
9	Team composition and expertise	e. Do team members have the required Qualifications and expertise/skills? (5) f. Does the team possess the relevant previous experience and passion in application development? (5)	10
10	Implementation	a. Is the proposed implementation time/Schedule realistic? (5) b. Is solution/Application cost effective? (5)	10

11	<i>Quality of the presentation</i>	a. Was the team confident, articulate and easy to understand? b. Did the team demonstrate teamwork and confidence? c. Did the team demonstrate the prototype/ application with clarity?	5
Total Maximum Score			70

Appendix 6: List of Judges and their brief profiles

1. Mr. Jushua Akandwanaho



PROFESSIONAL BIO JOSHUA AKANDWANAHO

An economist with a Masters in Economics Policy and Management (MA-EPM) currently the IT Services Expert at the National Information Technology Authority of Uganda (NITA-U). As part of his job provides tailored IT advisory support to different government ministries, departments and agencies and supports business process re-engineering and automation. He as well serves as the strategic link between NITA-U and stakeholders.

With over 10 years of professional work experience in public service, Joshua has served in multiple capacities at NITA-U, he previously served as the Business Process Analyst, Research and Innovation lead and Applications Solutions Architect no wonder his thorough and precise approach to work has yielded excellent results.

Whilst Joshua is a member of the European Union (EU) Technical Working group on Governance and Corruption under the Sustainable Business 4 Uganda (SB4U) project. Joshua Akandwanaho has extensive knowledge and expertise in ICT4 development, managing Innovation ecosystems, designing and implementing e-government projects.

A believer in the power of technology to accelerate progress in government, Joshua is leading different public offices to harness Future or (4IR) technologies in Big data science, Artificial Intelligence, machine learning, intelligent automation for insight generation purposed to solve the country's toughest digital public challenges.

Joshua led a World Bank consulting firm AVASANT to design and build a blueprint for Uganda the Uganda Innovation Centre of Excellence (ICOE) Business and Strategic

2. Dr. Godfrey Mayende, PhD



Godfrey is a Lecturer and Deputy Director, at the Institute of Open Distance and eLearning, and Program Manager, Mastercard Foundation Scholars Program eLearning Initiative at Makerere University. Team member on ICT-4MRPQ Project (EU Funded), TELLs Project (Norad Funded) and MATH4SDG Project (Norad

Funded). He has 22 years of experience in teaching and learning at the University. During the COVID period, he was the Ag. Director of IODEL where he played a pivotal role in providing administrative and technical leadership when conducting the first-ever online examination at Makerere University.

He holds a Postgraduate Certificate in Instructional Design and Performance Improvement from Arizona State University (ASU), USA. Godfrey obtained PhD, ICT (Online Learning) at the Department of ICT, Faculty of Engineering and Science, University of Agder (UiA), Norway. Holds PGDE (ICT) from the University of Cape Town (UCT), South Africa. Holds MSc. Eng (Information Systems) from Norwegian University of Science and Technology (NTNU), Norway. Holds BSc. Computer Science and Mathematics from Makerere University (MAK), Uganda. He has recently peer-reviewed publications in the area of Open Distance and eLearning.

He is a consultant in instruction design, learning design, eLearning, Educational Multimedia Production, and curriculum review. His research interests are: online learning groups, instructional design, learning design, distance learning, eLearning, and online assessment.

3. George Ebine



PROFESSIONAL PROFILE

George Ebine is the Senior Higher Education officer at National Council for Higher Education (NCHE) with a wealth of experience and

professional training in information Science and Software development. He has worked with several organisations as ICT systems development coordinator including the integrated Management information system (IMIS) of the NCHE. He is an Institutional coordination and dialogue with partners, project identification and supervision, evaluation and implementation of multi-faceted projects including training coordination work with British Council.

He is an experienced in information systems development specialist currently charged with the transformation off the NCHE Library into a National Higher Education Reference Library with modern digital library management systems and skills. He has expert knowledge and experience working with diverse Library Management systems such as Alice an integrated library automations software and a member of Education Management Information System (EMIS) review committee.

Educational Background

2018: Master of Science in Information Technology

2013: Master of Science in Marketing, Makerere University

2014: Postgraduate Diploma in M&E, Uganda Management Institute

1999: Bachelor of Library and Information Science, Makerere University

4. Dr. Deborah Natumanya, PhD



Deborah is a lecturer and a researcher at the Department of Computer Science, Mbarara University of Science and Technology. She holds a PhD in Computing. At the faculty, Deborah teaches various courses among which include Systems Analysis and Design, Geographical Information Systems, Software Engineering, Computer Skills, Electronic Business, and Computer Literacy. With her nine years of experience, Deborah's research interests lie under ICT for development (ICT4D) with a main focus in the application of ICT to improve the quality of education.

5. Prof. Laura Orobia Aseru, PhD

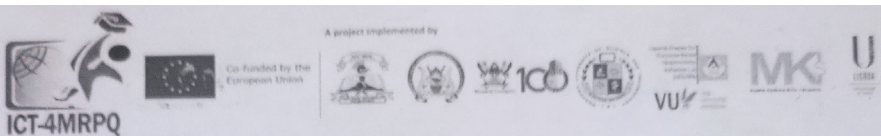


as Associate Professor/ Head of Department of Accounting & Finance (Academics) at Makerere University Business School, Lecturer as well as Senior Lecturer at the same institution. Laura is also a full member of the Institute of Certified Public Accountants of Uganda (ICPAU) since 2009. She holds a PhD in Accounting, a Master of Science in Accounting & Finance and Bachelors in Business Administration (Accounting) from Makerere University.

Laura is Professor/Deputy Dean, Faculty of Graduate Studies and Research, Makerere University Business School. She previously served

Her interests are in Accountancy and Finance, and not only has she grown to love the profession over the years but also achieved remarkable things. Laura desires to continue advancing professional development, advancing knowledge creation through research, enhancing public perception of the profession, supporting members well-being and enhancing the linkage between universities, other Institutions and ICPAU to promote accountancy education in the country.

Appendix 7: Final pitching evaluation results



ICT-4MRPQ PROJECT
MOBILE APPLICATION DEVELOPMENT HACKATHON HELD ON SATURDAY AUGUST 26, 2023

FINAL PITCHING EVALUATION RESULTS

A total of Four (4) teams pitched their mobile Application to the judges according to the presentation outline provided (attached). Each team was given a maximum of 10 Minutes (5 Minutes for presentation and demonstration, and 5 Minutes for Q&A Session with the judges). Additional minutes were provided to teams to clarify on functionality of their Application.

Table 1: Summary of team results

NO.	TEAM LEADERS	UNIVERSITY	JUDGES					Team Average Score
	Names		Godfrey Mayende	Laura Orobia	Deborah Natumanya	George Ebine	Joshua Akandwanaho	
1	Augustine Beilel	MUST	53	64	64	55	50	71.50
2	Bob Wesonga	MUST	53	62	56	51	59	70.25
3	Viola Awor	MUBS	50	63	54	48	50	66.25
4	Allan Amany Kayumbu	MAK	54	43	57	47	55	64.00

We the undersigned approve these results as final.

- Prof. Laura Orobia, PhD, Signature: _____ Date: August 26, 2023
- Dr. Godfrey Mayende, PhD Signature: _____ Date: August 26, 2023
- Dr. Deborah Natumanya, PhD Signature: _____ Date: August 26, 2023
- Mr. George Ebine Signature: _____ Date: August 26, 2023
- Mr. Joshua Akandwanaho Signature: _____ Date: August 26, 2023

Appendix 8: Draft Application Development Agreement

MOBILE APPLICATION DEVELOPMENT AGREEMENT

BETWEEN

**STRENGTHENING CAPACITY FOR ICT USAGE AND POLICY REFORMS FOR RELEVANT AND
QUALITY MASTERS RESEARCH PROCESS MANAGEMENT IN UGANDA'S HEI'S PROJECT**

(ICT-4MRPQ)

AND

**OVERALL WINNERS OF THE ICT-4MRPQ MOBILE APPLICATION DEVELOPMENT HACKATHON
(SCHOLAR TRACK TEAM)**

MOBILE APPLICATION DEVELOPMENT AGREEMENT

This Mobile Application Development Agreement (the "Agreement") is entered into as of August 26, 2023, effective as of September 1, 2023 (the "Effective Date") by and between the overall winners of the ICT-4MRPQ Hackathon held on August 25, 2023 at MUBS Entrepreneurship Innovation and Incubation Centre (MUBS-EIIC), (the "Scholar Track Team"), and the ICT-4MRPQ Project, Makerere University Business School (the "ICT-4MRPQ Project," and together with the Scholar Track Team, the "Parties").

RECITALS

WHEREAS, the ICT-4MRPQ project aims at strengthening Uganda's Higher Education Institutions (HEIs) capacity to use ICT in Masters' research journey quality management processes and devise Policy reforms for relevant high-quality research outputs; and

WHEREAS, the Scholar Track Team provides customized mobile application development services; and

WHEREAS, the ICT-4MRPQ project wishes to engage the Scholar Track Team as an independent contractor for the ICT-4MRPQ Project for the purpose of designing and developing the ICT-4MRPQ project Masters Research E-supervision Mobile Application that is integrated with existing Masters Research E-supervision Web Platform (the "Mobile Application") on the terms and conditions set forth below; and

WHEREAS, the Scholar Track Team wishes to develop the Mobile Application and agrees to do so under the terms and conditions of this Agreement; and

WHEREAS, each Party is duly authorized and capable of entering into this Agreement.

NOW THEREFORE, in consideration of the above recitals and the mutual promises and benefits contained herein, the Parties hereby agree as follows:

1. PURPOSE.

The ICT-4MRPQ Project hereby appoints and engages the Scholar Track Team, and the Scholar Track Team hereby accepts this appointment, to perform the design, development, and hosting of the Mobile Application

2. COMPENSATION.

All Parties agreed the payment listed below are fair and just for the services being provided. These payments shall be made in form of stipend to be paid in monthly installments as per the schedule below

The payment shall not remain due to the Scholar Track Team for more than Three (3) Months. The initial payment to be made for essential resources as agreed upon is Uganda Shillings.....

2.1 Payment Schedule:

Description	Frequency	Rate
a) Team Leader	Monthly	700,000
b) Each team member	Monthly	500,000
c) Senior coaching and mentorship support provided to the teams during the three (3) Months implementation period. Payment for this activity will be made directly to the senior mentors and/or coaches. The Senior mentors and coaches shall be identified through a mutual agreement by both parties.	Lump Sum	3,000,000

3. TERM.

This Agreement shall become effective as of the Effective Date and, unless otherwise terminated in accordance with the provisions of Section 4 of this Agreement, will continue until the Services have been satisfactorily completed and the Scholar Track Team has been paid in full for such Services (the "Term") [or on the expiration of the Warranty Period as defined in subsection 9(a) of this Agreement.].

4. TERMINATION.

4.1 Types of Termination. This Agreement may be terminated:

- A. By either Party on provision of thirty (30) days written notice to the other Party.
- B. By either Party for a material breach of any provision of this Agreement by the other Party, if the other Party's material breach is not cured within thirty (30) days of receipt of written notice thereof. This shall include any delays to the timeline specified in the payment schedule.
- C. By the ICT-4MRPQ Project at any time and without prior notice, if the Scholar Track Team is convicted of any felony crime or offense, fails or refuses to comply with the written policies or reasonable directives of the ICT-4MRPQ Project, or is guilty of serious misconduct in connection with performance under this Agreement.

- 4.2 Responsibilities after Termination. Following the termination of this Agreement for any reason, the ICT-4MRPQ Project shall promptly pay the Scholar Track Team according to the payment schedule for Services rendered before the effective date of the termination (the "Termination Date"). The Scholar Track Team acknowledges and agrees that no other compensation, of any nature or type, shall be payable hereunder following the termination of this Agreement. All intellectual property developed pursuant to this Agreement before the Termination Date shall remain property of the Scholar Track Team.

5. RESPONSIBILITIES.

- 5.1 Of the Scholar Track Team. The Scholar Track Team agrees to do each of the following:

- 5.1.1 Implement Masters E-Supervision Mobile Application created during the hackathon, presented to the panel of Judges and selected as the best, and as guided by the Judges and ICT-4MRPQ Project implementing partners.,
- 5.1.2 Extend best efforts to ensure that the design and functionality of the Masters E-Supervision Mobile Application meets the ICT-4MRPQ Project goals and specifications.

- 5.1.3 Devote as much productive time, energy, and ability to the performance of its duties hereunder as may be necessary to provide the required Services in a timely and productive manner and to the timeframe specified in ICT-4MRPQ Project outline.
- 5.1.4 Perform the Services in a workmanlike manner and with professional diligence and skill, as a fully-trained, skilled, competent, and experienced personnel.
- 5.1.5 On completion of the Masters E-Supervision Mobile Application, coordinate with the IC-4MRPQ Project partners in installation of the Masters E-Supervision Mobile Application to its final location, which assistance will include coordinating with the ICT-4MRPQ Project partners to upload finished files to the Partner's selected web hosting company and submitting for approval on the Apple App Store and Google Play Marketplace.
- 5.1.6 Provide all files and compiled code to the ICT-4MRPQ Project.
- 5.1.7 Provide Services and a Masters E-Supervision Mobile Application that is satisfactory and acceptable to the ICT-4MRPQ Project and substantially free of defects.
- 5.1.8 Communicate with the ICT-4MRPQ Project regarding progress it has made on a regular basis.
- 5.2 Of the ICT-4MRPQ Project. The ICT-4MRPQ Project agrees to do each of the following:
 - 5.2.1 Engage the Scholar Track Team as the Developer of its Masters E-Supervision Mobile Application.
 - 5.2.2 Provide all assistance and cooperation to the Scholar Track Team in order to complete the Masters E-Supervision Mobile Application timely and efficiently.
 - 5.2.3 Provide any authorization and compliance requirements for the Masters E-Supervision Mobile Application.
 - 5.2.4 Provide initial information, and supply all content for the Masters E-Supervision Mobile Application.

6. SUPPORT PERIOD.

- 6.1 The Scholar Track Team agrees to provide continued support for the Masters E-Supervision Mobile Application for 90 days after the Masters E-Supervision Mobile application is successfully approved on the Apple App Store and on the Google Play Marketplace (the "Support Period").
- 6.2 The Support Period shall refer to any bugs or issues relating to the features specified in app project outline, and not to create new functionality for the Application System. This support will be provided to the ICT-4MRPQ Project at no additional cost.

7. CONFIDENTIAL INFORMATION.

The Developer Tam agrees, during the Term and thereafter, to hold in strictest confidence, and not to use, except for the benefit of the ICT-4MRPQ Project, or to disclose to any person, firm, or corporation without the prior written authorization of the ICT-4MRPQ Project, any Confidential Information of the ICT-4MRPQ Project. "Confidential Information" means any of the ICT-4MRPQ Project's proprietary information, technical data, trade secrets, or know-how, including, but not limited to, business plans, research, product plans, products, services, customer lists, markets, software, developments, inventions, processes, formulas, technology, designs, drawings, engineering, hardware configuration information, marketing, finances, or other business information disclosed to the Scholar Track Team by the ICT-4MRPQ Project either directly or indirectly.

8. PARTIES' REPRESENTATIONS AND WARRANTIES.

8.1 The Parties each represent and warrant as follows:

8.1.1 Each Party has full power, authority, and right to perform its obligations under the Agreement.

8.1.2 This Agreement is a legal, valid, and binding obligation of each Party, enforceable against it in accordance with its terms (except as may be limited by bankruptcy, insolvency, moratorium, or similar laws affecting creditors' rights generally and equitable remedies).

8.1.3 Entering into this Agreement will not violate the charter or bylaws of either Party or any material contract to which that Party is also a party.

8.2 The Scholar Track Team hereby represents and warrants as follows:

8.2.1 The Scholar Track Team has the right to control and direct the means, details, manner, and method by which the Services required by this Agreement will be performed.

8.2.2 The Scholar Track Team has the experience and ability to perform the Services required by this Agreement.

8.2.3 The Scholar Track Team has the right to perform the Services required by this Agreement at any place or location, and at such times as the Scholar Track Team shall determine.

8.2.4 The Services required by this Agreement shall be performed by the Scholar Track Team, and the ICT-4MRPQ Project shall not be required to hire, supervise, or pay any assistants to help the Developer perform such services except for mutually agreed senior mentorship and coaching.

8.2.5 The Scholar Track Team is responsible for paying all ordinary and necessary expenses of itself or its team members.

8.3 The ICT-4MRPQ Project hereby represents and warrants as follows:

8.3.1 The CT-I4MRPQ Project will make timely payments of amounts earned by the Scholar Track Team under this Agreement and as detailed in the payment schedule.

8.3.2 The ICT-4MRPQ Project shall notify the Scholar Track Team of any changes to its procedures affecting the Scholar Track Team's obligations under this Agreement at least thirty (30) days prior to implementing such changes.

8.3.3 The ICT-4MRPQ Project shall notify the Scholar Track Team of any particular laws, rules, or regulations that must be followed to comply with local accessibility requirements.

8.3.4 The ICT-4MRPQ Project shall provide such other assistance to the Scholar Track Teams as it deems reasonable and appropriate.

9. MOBILE APPLICATION REPRESENTATIONS AND WARRANTIES.

9.1 Performance. The Scholar Track Team hereby warrants and represents that for a period of ninety (90) days following delivery of the Masters E-Supervision Mobile Application to the ICT-4MRPQ Project pursuant to (the "Support Period"), the frontend and backend systems will be free from programming errors and defects in workmanship and materials, and

will conform to the Masters E-Supervision Web portal specifications. If programming errors or other defects are discovered during the Support Period, the Scholar Track Team shall promptly remedy those errors or defects at its own expense.

- 9.2 No Disablement. The Scholar Track Team hereby warrants and represents that the Masters E-Supervision Mobile Application, when delivered or accessed by the ICT-4MRPQ Project partners, will be free from material defects, and from viruses, logic locks, and other disabling devices or codes, and in particular will not contain any virus, Trojan horse, worm, drop-dead devices, trap doors, time bombs, or other software routines or other hardware component that could permit unauthorized access, disable, erase, or otherwise harm the Masters E-Supervision Mobile Application or any software, hardware, or data, cause the Masters E-Supervision Mobile Application or any software or hardware to perform any functions other than those specified in this Agreement, halt, disrupt, or degrade the operation of the Application System or any software or hardware, or perform any other such actions.

10. TIMING AND DELAYS.

The Scholar Track Team recognizes and agrees that failure to deliver the Mobile Application in accordance with the delivery schedule will result in expense and damage to the ICT-4MRPQ Project. The Scholar Track Team shall inform the ICT-4MRPQ Project immediately of any anticipated delays in the delivery schedule and of any remedial actions being taken to ensure completion of the Masters E-Supervision Mobile Application according to such schedule. If a delivery date is missed by more than 30 days, the ICT-4MRPQ Project may, in its sole discretion, declare such delay a material breach of the Agreement under subsection 4(a) and pursue all of its legal and equitable remedies. The ICT-4MRPQ Project may not declare a breach, and the Scholar Track Team cannot be held in breach of this Agreement, of this section if such delay is caused by an action or failure of action of the ICT-4MRPQ Project. In such case, the Scholar Track Team will provide the ICT-4MRPQ Project with written notice of the delay and work on the Mobile Application until the reason for the delay has been resolved by the ICT-4MRPQ Project and written notice of that resolution has been provided to the Developer.

11. NATURE OF RELATIONSHIP.

- 11.1 Independent Contractor Status. The Scholar Track Team agrees to perform the Services hereunder solely as an independent contractor. The Parties agree that nothing in this Agreement shall be construed as creating a joint venture, partnership, franchise, agency, employer/employee, or similar relationship between the Parties, or as authorizing either Party to act as the agent of the other. The Scholar Track Team is and will remain an independent contractor in its relationship to the ICT-4MRPQ Project. The ICT-4MRPQ Project shall not be responsible for withholding taxes if any with respect to the Scholar Track Teams' compensation hereunder. The Scholar Track Team shall have no claim against the ICT-4MRPQ Project hereunder or otherwise for vacation pay, sick leave, retirement benefits, social security, worker's compensation, health or disability benefits, unemployment insurance benefits, or employee benefits of any kind. Nothing in this Agreement shall create any obligation between either Party and a third party.
- 11.2 Indemnification of ICT-4MRPQ Project by Scholar Track Team. The ICT-4MRPQ Project has entered into this Agreement in reliance on information provided by the Scholar Track Team, including the Scholar Track Teams' express representation that it is an independent contractor and in compliance with all applicable laws related to work as an independent contractor. If any regulatory body or court of competent jurisdiction finds that the Developer is not an independent contractor and/or is not in compliance with applicable laws related to work as an independent contractor, based on the Developer's own

actions, the Scholar Track Team shall assume full responsibility and liability for all taxes, assessments, and penalties imposed against the Scholar Track Teams and/or the ICT-4MRPQ Project resulting from such contrary interpretation, including but not limited to taxes, assessments, and penalties that would have been deducted from the Developer's earnings had the Scholar Track Team been on the ICT-4MRPQ Project's payroll and employed as an employee of the ICT-4MRPQ Project

12. LICENSING.

The Scholar Track Team agrees to grant a transferable, assignable, non-exclusive license to the ICT-4MRPQ Project for the use of the software framework. The ICT-4MRPQ Project and the Scholar Track Team agree that payments made under this agreement are for the license and custom consulting services and do not compensate the Scholar Track Team for any "work for hire." The ICT-4MRPQ Project retains the right to distribute, disseminate, and otherwise license the application in any manner that does not violate any other portion of this agreement. The ICT-4MRPQ Project shall retain all rights to the source code of the software provided. The Developer grants the ICT-4MRPQ Project a non-exclusive right to source code. Notwithstanding any provision in this section, the ICT-4MRPQ Project and its implementing partners retains ownership of any data, information, or other property stored, saved, transmitted or otherwise transformed by the licensed application.

13. NO CONFLICT OF INTEREST; OTHER ACTIVITIES.

The Scholar Track Team hereby warrants to the ICT-4MRPQ Project that, to the best of its knowledge, it is not currently obliged under any existing contract or other duty that conflicts with or is inconsistent with this Agreement. During the Term, the Scholar Track Team is free to engage in other development activities; provided, however, the Scholar Track Team shall not accept work, enter into contracts, or accept obligations inconsistent or incompatible with the Scholar Track Teams's obligations or the scope of Services to be rendered for the ICT-4MRPQ Project pursuant to this Agreement.

14. RETURN OF PROPERTY.

Within seven (7) days of the termination of this Agreement, whether by expiration or otherwise, the Scholar Track Team agrees to return to the ICT-4MRPQ Project all ICT-4MRPQ Project products, samples, models, or other property and all documents, retaining no copies or notes, relating to the ICT-4MRPQ Project's business including, but not limited to, reports, abstracts, lists, correspondence, information, computer files, computer disks, and all other materials and all copies of such material obtained by the Scholar Track Team during and in connection with its representation of the ICT-4MRPQ Project. All files, records, documents, blueprints, specifications, information, letters, notes, media lists, original artwork/creative, notebooks, and similar items relating to the ICT-4MRPQ Project's business, whether prepared by the Scholar Track Team or otherwise coming into its possession, shall remain the ICT-4MRPQ Project's exclusive property.

15. INDEMNIFICATION.

- 15.1 Of ICT-4MRPQ Project by Scholar Track Team. The Scholar Track Team shall indemnify and hold harmless the ICT-4MRPQ Project and its officers, members, managers, employees, agents, contractors, sub licensees, affiliates, subsidiaries, successors and assigns from and against any and all damages, liabilities, costs, expenses, claims, and/or judgments, including, without limitation, reasonable attorneys' fees and disbursements (collectively, the "Claims") that any of them may suffer from or incur and that arise or result primarily from (i) any gross negligence or willful misconduct of the Scholar Track Team arising from or connected with the Scholar Track Teams' carrying out of its duties under this

Agreement, or (ii) the Scholar Track Teams' breach of any of its obligations, agreements, or duties under this Agreement.

- 15.2 Of Scholar Track Team by ICT-4MRPQ Project. The ICT-4MRPQ Project shall indemnify and hold harmless the Scholar Track Team from and against all Claims that it may suffer from or incur and that arise or result primarily from (i) the ICT-4MRPQ Project's operation of its business, (ii) the ICT-4MRPQ Project's breach or alleged breach of, or its failure or alleged failure to perform under, any agreement to which it is a party, or (iii) the ICT-4MRPQ Project's breach of any of its obligations, agreements, or duties under this Agreement; provided, however, none of the foregoing result from or arise out of the actions or inactions of the Scholar Track Team.

16. INTELLECTUAL PROPERTY.

- 16.1 No Intellectual Property Infringement by Scholar Track Team. The Scholar Track Team hereby represents and warrants that the use and proposed use of the app by the ICT-4MRPQ Project or any third party does not and shall not infringe, and the Scholar Track Team has not received any notice, complaint, threat, or claim alleging infringement of, any trademark, copyright, patent, trade secrets, industrial design, or other rights of any third party in the app, and the use of the Masters E-Supervision Mobile Application will not include any activity that may constitute "passing off." To the extent the app infringes on the rights of any such third party, the ICT-4MRPQ Project shall obtain a license or consent from such third party permitting the use of the Masters E-Supervision Mobile Application.
- 16.2 No Intellectual Property Infringement by ICT-4MRPQ Project. The ICT-4MRPQ Project represents to the Scholar Track Team and unconditionally guarantees that any elements of text, graphics, photos, designs, trademarks, or other artwork furnished to the Scholar Track Team for inclusion in the app are owned by the ICT-4MRPQ Project, or that the ICT-4MRPQ Project has permission from the rightful owner to use each of these elements, and will hold harmless, protect, indemnify, and defend the Scholar Track Team and its subcontractors from any liability (including attorneys' fees and court costs), including any claim or suit, threatened or actual, arising from the use of such elements furnished by the ICT-4MRPQ Project.
- 16.3 Continuing Ownership of Existing Trademarks. The Scholar Track Team recognizes the ICT-4MRPQ Project's right, title, and interest in and to all service marks, trademarks, and trade names used by the ICT-4MRPQ Project and agrees not to engage in any activities or commit any acts, directly or indirectly, that may contest, dispute, or otherwise impair the ICT-4MRPQ Project's right, title, and interest therein, nor shall the Scholar Track Team cause diminishment of value of said trademarks or trade names through any act or representation. The Scholar Track Team shall not apply for, acquire, or claim any right, title, or interest in or to any such service marks, trademarks, or trade names, or others that may be confusingly similar to any of them, through advertising or otherwise. Effective as of the termination of this Agreement, the Scholar Track Team shall cease to use all of the ICT-4MRPQ Project's trademarks, marks, and trade names.

17. AUTHORSHIP CREDIT.

The Scholar Track Team may include a byline and link in the Masters E-Supervision Mobile Application System establishing authorship credit. This byline is upon agreement by both the ICT-4MRPQ Project and the Scholar Track Team and may be removed at any time upon written request by the ICT-4MRPQ Project.

18. LAWS AFFECTING ELECTRONIC COMMERCE.

The ICT-4MRPQ Project agrees that it is solely responsible for complying with such laws, taxes, and tariffs, and will hold harmless, protect, and defend the Scholar Track Team and its subcontractors from any claim, suit, penalty, tax, or tariff arising from the ICT-4MRPQ Project's exercise of Internet electronic commerce.

19. AMENDMENTS.

No amendment, change, or modification of this Agreement shall be valid unless in writing and signed by both Parties.

20. ASSIGNMENT.

The ICT-4MRPQ Project may assign this Agreement freely, in whole or in part. The Scholar Track Team may not, without the written consent of the ICT-4MRPQ Project, assign, or delegate its obligations under this Agreement, except that the Scholar Track Team may transfer the right to receive any amounts that may be payable to it for its Services under this Agreement, which transfer will be effective only after receipt by the ICT-4MRPQ Project of written notice of such assignment or transfer.

21. SUCCESSORS AND ASSIGNS.

All references in this Agreement to the Parties shall be deemed to include, as applicable, a reference to their respective successors and assigns. The provisions of this Agreement shall be binding on and shall inure to the benefit of the successors and assigns of the Parties.

22. FORCE MAJEURE.

A Party shall not be considered in breach of or in default under this Agreement on account of, and shall not be liable to the other Party for, any delay or failure to perform its obligations hereunder by reason of fire, earthquake, flood, explosion, strike, riot, war, terrorism, or similar event beyond that Party's reasonable control (each a "Force Majeure Event"); provided, however, if a Force Majeure Event occurs, the affected Party shall, as soon as practicable:

- 22.1 Notify the other Party of the Force Majeure Event and its impact on performance under this Agreement; and
- 22.2 Use reasonable efforts to resolve any issues resulting from the Force Majeure Event and perform its obligations hereunder.

23. NO IMPLIED WAIVER.

The failure of either Party to insist on strict performance of any covenant or obligation under this Agreement, regardless of the length of time for which such failure continues, shall not be deemed a waiver of such Party's right to demand strict compliance in the future. No consent or waiver, express or implied, to or of any breach or default in the performance of any obligation under this Agreement shall constitute a consent or waiver to or of any other breach or default in the performance of any other obligation.

24. NOTICE.

Any notice or other communication provided for herein or given hereunder to a Party hereto shall be in writing and shall be given in person, or by electronic mail to the respective Parties as follows:

24.1 If to the ICT-4MRPQ Project:

Makerere University Business School
Plot 21A, Portbell Road
P.O. BOX 1337, Kampala

24.2 If to the Scholar Track Team:

Mbarara University of Science and Technology
Off Kabale, Mbarara Road
P.O. BOX 1410, Mbarara,

25. GOVERNING LAW.

This Agreement shall be governed by the laws of the Republic of Uganda. In the event that litigation results from or arises out of this Agreement or the performance thereof, the Parties agree to reimburse the prevailing Party's reasonable attorneys' fees, court costs, and all other expenses, whether or not taxable by the court as costs, in addition to any other relief to which the prevailing Party may be entitled.

26. COUNTERPARTS/ELECTRONIC SIGNATURES.

This Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which shall constitute one and the same instrument. For purposes of this Agreement, use of a facsimile, e-mail, or other electronic medium shall have the same force and effect as an original signature.

27. SEVERABILITY.

Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed, and enforced in such jurisdiction as if such invalid, illegal, or unenforceable provisions had never been contained herein.

28. ENTIRE AGREEMENT.

This Agreement, constitutes the final, complete, and exclusive statement of the agreement of the Parties with respect to the subject matter hereof, and supersedes any and all other prior and contemporaneous agreements and understandings, both written and oral, between the Parties.

29. HEADINGS.

Headings used in this Agreement are provided for convenience only and shall not be used to construe meaning or intent. By signing below, the Parties agree to comply with all of the requirements herein.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first above written.

For and on behalf of
ICT-4MRPQ PROJECT

For and on behalf of
THE SCHOLAR TRACK TEAM

.....

.....

Prof. David Katamba
ICT - 4MRPQ Overall Project Co-coordinator

.....
Date

In the presence of

Name.....

.....
Date

Name:
Scholar Track Team Leader

.....
Date

In the presence of Team Members

Name Date.....

Name..... Date.....

Name Date.....

Name Date.....



COMPILED BY
MS. JOY TIKO

EDITED BY
CHARLES OLUPOT

28TH AUGUST 31, 2023