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| **PROJECT DATA** | |
| Number of Report | 1 |
| Name of Report (Quarterly or Month) | Month |
| Submission Date of Report | Microsoft Power Platform |
| Project Title | Future Skills Development Programme |
| Lead Partner Organization Name | Mafikeng digital Innovation Hub |
| Lead Partner Country | South Africa |
| Project Members | 10 |
| Authors (names of persons) responsible for report submission | Mokwanatle Rebaone |
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| Reporting Period Date |  |
| Project Start Date | 6/May/2024 |
| Project End Date | 30/September/2024 |
| ***Signature Of Facilitator***    ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_***  *I, as representative Project Facilitator of this project and in line with the obligations as stated in the MDIHUB Implementation Agreement declare that:*   1. *The attached report represents an accurate description of the work carried out in this project for this reporting period.* 2. *The registers will be attached to the report* | |

**/;1.Project Activities**

State all activities undertaken during the reporting period. For activities planned but not achieved, state the reason for this variance.

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| **Project Activities** | **Status of Activity (Completed/Not Completed)** | **Variance** | **Challenge**  **If there was a challenge to completing the activity, what was it and how was it mitigated?** |
| *E.g., Activity 1 Training 10 participants* | Completed | There was no problem with training the 10 participants. | There was no challenge, the activity was completed successfully. |
| **Activity 1 Training 10 participants**  Power Apps best practices | Completed | All candidates were successfully trained on Power Apps best practices allow developers to be able to get the most out of the platform, it is very crucial for tech teams to adhere to certain best practices when developing applications using Microsoft Power Platform.  1. Plan your Application 2. Get Familiar with the Interface 3. Optimize Data Source 4. Emphasize Data Security 5. Design for Multiple Devices 6. Utilize Templates and Recyclable Components 7. Document Your Application 8. Monitor and Analyze App Usage. | The challenge was implementing these practices because of the certain limitations on the Microsoft 365 account, due to the lack of subscriptions. |
| **Activity 2 Training 10 participants**  Choosing the right data source for your apps | Completed | All candidates were successfully trained on how to choose the right data source for your apps.   1. You choose a data source based on your solutions needs.   **Factors** such as: Features, Security, Speed, Pricing & Integration’s. | The challenge was that the candidates had no prior knowledge of the general Software Development Life Cycle and what procedures to follow. |
| **Activity 3 Training 6 participants**  Power Platform Licensing | Not Completed (Still on-going) | All members are still learning how to choose a license package that will best suit their solution. | The challenge is the lack of licensing and therefore candidates are unable to experience in reality how licensing works. |
| **Activity 4 Training 6 participants**  Power Platform Security | Completed | Power Platform Security  - Azure AD  - License  - Environment  - Data Loss Prevention Policies  - Security Roles  - Encryption  Dataverse Security Model  - Security Roles (Privileges & Access Levels)  - Business Units (Defining security boundaries)  - Records Ownership ( Which user owns a record & business unit a user belongs to.)  - Teams (Owner Teams & Access Teams) | There is no significant challenge except subscriptions. |
| **Activity 5 Training 6 participants**  Database Relationships | Completed | All members members were guided on what are relationships, specifically for Microsoft Dataverse and other databases. Relationships are a way to represent how tables are connected to each other.   1. One-to-many relationships : Can be ‘parent-child’ relationships. Example, An invoice (parent table) can have many line items (child). 2. Many-to-many relationships: Example, A contact can attend multiple Events and an event can be attended by many Contacts. | Yet to be done. |

**2. Project Outputs (Qualitative and Quantitative)**

State all outputs (both qualitative and quantitative) achieved by the project during the reporting period. For outputs planned but not achieved, state the reason for this variance.

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| **Project Outputs**  **Outputs must be numbered according to their numbering in the Project Work Plan** | **Status of Activity (Completed/Not Completed)** | **Variance** | **Challenge**  **If there was a challenge to completing the activity, what was it and how was it mitigated?** |
| *E.g., Output 1 – Number of people successfully trained: 10* | Not Completed | E.g., There were only 5 persons trained for this output, due to lack of registrations. |  |
| *Output 1 – Number of people successfully trained: 6*  *Microsoft Power Platform Power Apps canvas app designed: 10* | Completed | All participants were successfully trained and successfully implemented the skills learned into developing different applications for different real world scenarios. | The challenge remains, subscriptions and due to this. All applications remain on a developer environment which means the applications cannot be shared. |
| *Output 2 – Number of sessions conducted: Two candidates invited to a meeting hosted by the facilitator to discuss application requirements.* | Completed | The candidates were trained on how to present their solutions to clients and were invited to a meeting with the team from DEDECT to discuss the requirements for the complaints application that the MEC had requested. The team had designed a demo app for the DEDECT team and presented it. They liked the demo and agreed to keep it as it is. | The challenges remain that of the lack of subscriptions and experiencing contraints due to that. |
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**3.Project Partnership**

State the roles and responsibilities of the project members during this Month. Name any challenges that were encountered with the partner during this Month that may affect project implementation.

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| **Learners Name** | **Learner Role During this Month** | **Challenges** |
| *Teboho Seqhofa* | *Technical Writer* | *Still learning Software Development* |
| Skabade Rakosa | Backend developer | Still learning all the necessary Backend skills |
| Keabetswe Masondo | Frontend developer | Learning the necessary frameworks |
| Calvin Marungwane | Backend developer | Learning backend skills |
| Osego Mohutsiwa | Frontend developer | Basic HTML, CSS knowledge |
| Thabang Ndaba | UI/UX Designer | Learning frontend development |
| Mpho Munthali | Quality Assurance Tester |  |
| Mokaila Makhura | IT support |  |
| Kabelo Moshoette | Full stack developer |  |
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**4.Overall Lessons Learned, Success Stories and Challenges**

Mention any lessons learnt, success stories and challenges that were encountered overall during the implementation of this Month.

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| **Lessons Learned** |
| 1. **Traditional software development using HTML, CSS, JavaScript and Python for APIs.** |
| 1. Microsoft Dataverse deep dive, creating data tables for a canvas app and creating business rules. |
| 1. **Form validation** |
| 1. **Navigation and Power Fx** |
| 1. **Embedding a Power BI dashboard on an app** |
| 1. **Project Documentation** |
| **Success Stories** |
| This project allowed them to focus on more complex coding challenges, ultimately improving their programming skills.  · **Enhanced Team Capability:** By diving deep into Microsoft Dataverse, students mastered creating data tables and business rules, significantly improving their ability to build robust apps. This expertise empowered them to tackle more complex projects with confidence.  · **Hands-On Projects:** Students applied their knowledge by creating a custom app for a real-world scenario, streamlining a client’s business process. This practical application reinforced their learning and showcased their ability to deliver impactful solutions.   * Improved Efficiency: Students implemented advanced form validation techniques, reducing errors and ensuring data integrity across web applications. This enhancement freed up time for other development tasks, improving overall project efficiency.   · **Enhanced Team Capability:** By mastering Power Fx and app navigation, students created more intuitive user experiences, which improved the overall functionality of their projects. This skillset made them valuable contributors to any app development team.  · **Collaborative Learning:** Regularly sharing their insights and challenges in study groups, students fostered a collaborative environment that accelerated their learning and resulted in more polished final projects.   * Improved Efficiency: Students successfully embedded Power BI dashboards into apps, providing real-time data insights that improved decision-making processes within projects. This capability allowed teams to operate more strategically and efficiently. |
| **Challenges** |
| · **Steep Learning Curve:** Mastering multiple languages and frameworks simultaneously can be overwhelming, especially when trying to integrate them seamlessly. Students often struggle with debugging complex issues that arise from interactions between front-end and back-end code. |
| · **Time Management:** Balancing the time needed to learn each language and tool effectively, while also applying them to projects, can be challenging. This often leads to incomplete understanding or rushed projects. |
| · **Complexity of Dataverse:** Understanding the complexity of Microsoft Dataverse, including setting up relationships and enforcing business rules, can be difficult for beginners. Students might find it challenging to optimize data structures for performance and usability.  · **Integration Issues:** Integrating Dataverse with other Microsoft Power Platform tools or external systems can pose significant challenges, especially when dealing with data synchronization and compatibility issues. |
| · **Consistency and Detail:** Maintaining consistent and detailed documentation throughout a project is challenging, especially when balancing it with ongoing development tasks. Students might struggle with the discipline required to document regularly.  · **Communication Barriers:** Effectively communicating complex technical details to non-technical stakeholders through documentation can be difficult. Students may find it challenging to strike the right balance between technical depth and clarity. |