Project Charter

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| Project Title | Smart Hydro and GitHub Projects | | | | | | Project Manager | | | Shravan Ramjathan | |
| Start Date | 4th March 2025 | End Date | | 31st December 2025 | | | | | Project Sponsor | | Sarina Till |
| Business Need | | | | | | | | | | | |
| Currently it is hard for farmers to manually monitor their fodder and crop without dealing with the issue of pests. This system is meant to help automate growth of plants as well as have a system to deal with pests in an automated manner using AI. This project also allows us as students to expand our horizons in the world of software development working with multiple different technologies. | | | | | | | | | | | |
| Project Scope | | | | |  | Deliverables | | | | | |
| Update the current Smart Hydro Codebase and improve on it, finetuning the Arduino and integrating new AI models. Changing the current tent system to a tunnel system. Field test everything. | | | | |  | 1. Optimize current code base 2. Create a cleaner code base 3. Replace tents with tunnel system 4. Incorporate veggies and hydroponic fodder in the same tunnel 5. Integrate new AI models 6. Refine Android app 7. Remote management for the system 8. They can also connect to the system using local Wi-Fi network. | | | | | |
| Risks and Issues | | | | |  | Assumptions/Dependencies | | | | | |
| 1. Being able to get rid of data heavy system 2. The performance of the Android app 3. The physical structure of the new system 4. Current pump system is not fully functioning 5. Nothing of the current system is tested/verified. | | | | |  | 1. The group members will timeously push out work. 2. The farmers liked the original app design 3. The proposed encoding/decoding system for images will work better. 4. This new system will work better than previously. 5. The new AI models will work. | | | | | |
| Financials | | | | | | | | | | | |
| Currently have an advance of R5 000 | | | | | | | | | | | |
| Milestone Schedule | | | | | | | | | | | |
| *Milestone* | | | *Target Completion Date* | | | | | *Actual Date* | | | |
| Project Initiation | | | 4th March 2025 | | | | | 4th March 2025 | | | |
| Meeting Client | | | 7th March 2025 | | | | | 14th March 2025 | | | |
| Gathering requirements | | | 7th March 2025 | | | | | 14th March 2025 | | | |
| Creating required documentation | | | 10th March 2025 | | | | | 23rd March 2025 | | | |
| Concluding research | | | 13th April 2025 | | | | |  | | | |
| Development Start | | | 14th April 2025 | | | | |  | | | |
| Building Tunnel system | | | 2nd June 2025 | | | | |  | | | |
| Integrating new AI models | | | 17th August 2025 | | | | |  | | | |
| Testing System | | | 7th September 2025 | | | | |  | | | |
| Deployment | | | 21st September 2025 | | | | |  | | | |
| Quality of life | | | 12th October 2025 | | | | |  | | | |
| Evaluation | | | 27th October 2025 | | | | |  | | | |

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| Project Team | | Approval/Review Committee | |
| Project Manager | Shravan Ramjathan | Sponsor | Sarina Till |
| Team Members | Vidur Somaru, Keagen Shaw, Shaymen Kista, Ahmed Vally, Paayal Rakesh, Shivar Tulpah | Lecturer | Denzyl Govender |
|  | | Budget Allocation | Taryn Ross |