Stakeholder Register

This Stakeholder Register aims to identify all individuals, groups, and organizations that have a vested interest in the GrowHub project, and to document their influence, impact, and engagement levels. This document serves as a foundational tool for managing stakeholder expectations and fostering effective communication throughout the project lifecycle. Glossary of terms, acronyms, and abbreviations that are frequently used across different project domains, is included at the end of the document.

Version: 002
Updated: 11. 7. 2024 by Filip Vallo (Project Manager)

1. GENERAL PROJECT INFORMATION

Project name:
GrowHub

Project Manager: Filip Vallo
Email: filip.vallo@gmail.com

Expected start date: 8. 7. 2024
Expected completion date: 31. 8. 2024

2. PROJECT OVERVIEW

2.1 Description

GrowHub is an MVP IoT product designed to help indoor growers monitor and control their growing environments. The system will collect real-time data from various sensors and provide users with a web-based dashboard for monitoring and managing growing conditions. The product will include a set of fully programmable peripheral devices for irrigation scheduling, fertilizer injection, and power control. The dashboard will also allow to set alerts with notifications if any of the measured parameters exceeds set thresholds.

2.2 Purpose and Justification

The purpose of the GrowHub project is to develop an MVP IoT solution that provides hobbyists and professional growers with the tools to monitor and control their indoor growing environments. This solution aims to enhance plant growth by maintaining optimal conditions through automated and precise control of environmental factors.

3.3 Problem Statement

Indoor growers face challenges in maintaining optimal growing conditions for their plants. The lack of precise and automated control over environmental factors can lead to suboptimal plant growth and reduced yields.

3.4 Business Case

Developing the GrowHub MVP will demonstrate the feasibility of an IoT-based solution for indoor growing environments. This project has the potential to attract commercial interest, leading to further development and potential market entry. Successful implementation of the MVP will showcase the value of precise environmental control in improving plant health and yields.

2.5 Vision

Revolution of indoor growing through an innovative IoT solution that empowers both hobbyists and professionals to achieve optimal plant health and yields, by providing precise, automated environmental control and real-time monitoring.

2.6 Goals

- Manufacture a functional prototype of the monitoring IoT system using Raspberry Pi with integrated sensors to measure atmospheric and soil conditions
- Manufacture connected programmable peripheral IoT devices for irrigation control, fertilizer injection, and power control
- Develop a fully operational website with dashboard for live and historical data visualization with notification system and environmental control system for managing growing conditions
- Manufacture embedded PCB that integrates all electronic circuits needed to process digital signals from all connected sensors and to control all custom IoT peripheral devices
- Test the MVP's commercial potential

2.7 Scope Statement

The GrowHub project encompasses the development, testing, and deployment of a fully functional MVP IoT system for indoor growing environment monitoring and management.

2.8 Functional Requirements

2.8.1 IoT device

- Real-time data collection from atmospheric sensors (temperature, humidity, CO2) and soil sensors (moisture, pH, NPK) connected to Raspberry Pi microcomputer
- Fully programable peripheral IoT devices for irrigation control, fertilizer injection, and power control
- Embedded PCB with custom integrated electronic circuit that processes digital signals from all connected sensors and controls all peripheral devices

2.8.2 Web-based dashboard

- Real-time data collection from IoT device
- Historical data tracking and visualization
- Notification system for alerts when measured parameters exceed thresholds
- Environmental control system for managing growing conditions through peripheral devices

2.9 Non-functional Requirements

- High reliability and accuracy of sensor data
- Secure and responsive web dashboard
- User-friendly interface for both novice and experienced growers
- Scalability to handle multiple users and devices in the future

2.10 Outside of Scope

- Full commercialization and mass production (beyond MVP)
- User registration/authentication and user management system
- Advanced features not essential for the MVP
- Casing and product design

2.11 Risks

- Technical challenges in integrating sensors and developing the dashboard
- Limited budget and resources
- Delays in hardware procurement
- Delays in custom PCB manufacturing from the external vendor
- Quality issues with the manufactured PCB

2.12 Constraints

- Limited budget for hardware procurement and development
- Tight timeline to complete the MVP within the four planned phases
- Dependence on third-party services for cloud hosting and data storage
- Dependence on external vendor timelines for custom PCB manufacturing

2.13 Assumptions

- Availability of necessary hardware components
- Access to development tools and platforms for building the website
- The external vendor will meet the specified quality and timeline requirements for the custom PCB circuit
- Initial funding is sufficient to develop the MVP

3. STAKEHOLDERS

3.1 Stakeholder Identification and Analysis

3.1.1 Project Team

- **Filip Vallo** (Project Manager, IoT HW Engineer, SW Architect, SW Developer)
  - Interest: Project success, skill development, potential future commercialization
  - Influence: High
  - Engagement Level: Leading

3.1.2 Current Stakeholders

3.1.3 Future Stakeholders

- **External PCB Manufacturer**
  - Interest: Clear specifications, timely payment
  - Influence: Low
  - Engagement Level: Neutral (keep informed)
- **Cloud Service Provider**
  - Interest: Service utilization, timely payment
  - Influence: Low
  - Engagement Level: Neutral (monitor)

3.1.4 Potential Future Stakeholders

- **Potential investors**
  - Interest: Project viability, total addressable market (TAM), return on investment (ROI)
  - Influence: High
  - Engagement Level: Unaware (keep satisfied)
- **Potential commercial partners**
  - Interest: Product functionality, market fit, scalability
  - Influence: Medium
  - Engagement Level: Unaware (keep informed)

3.1.5 Target users

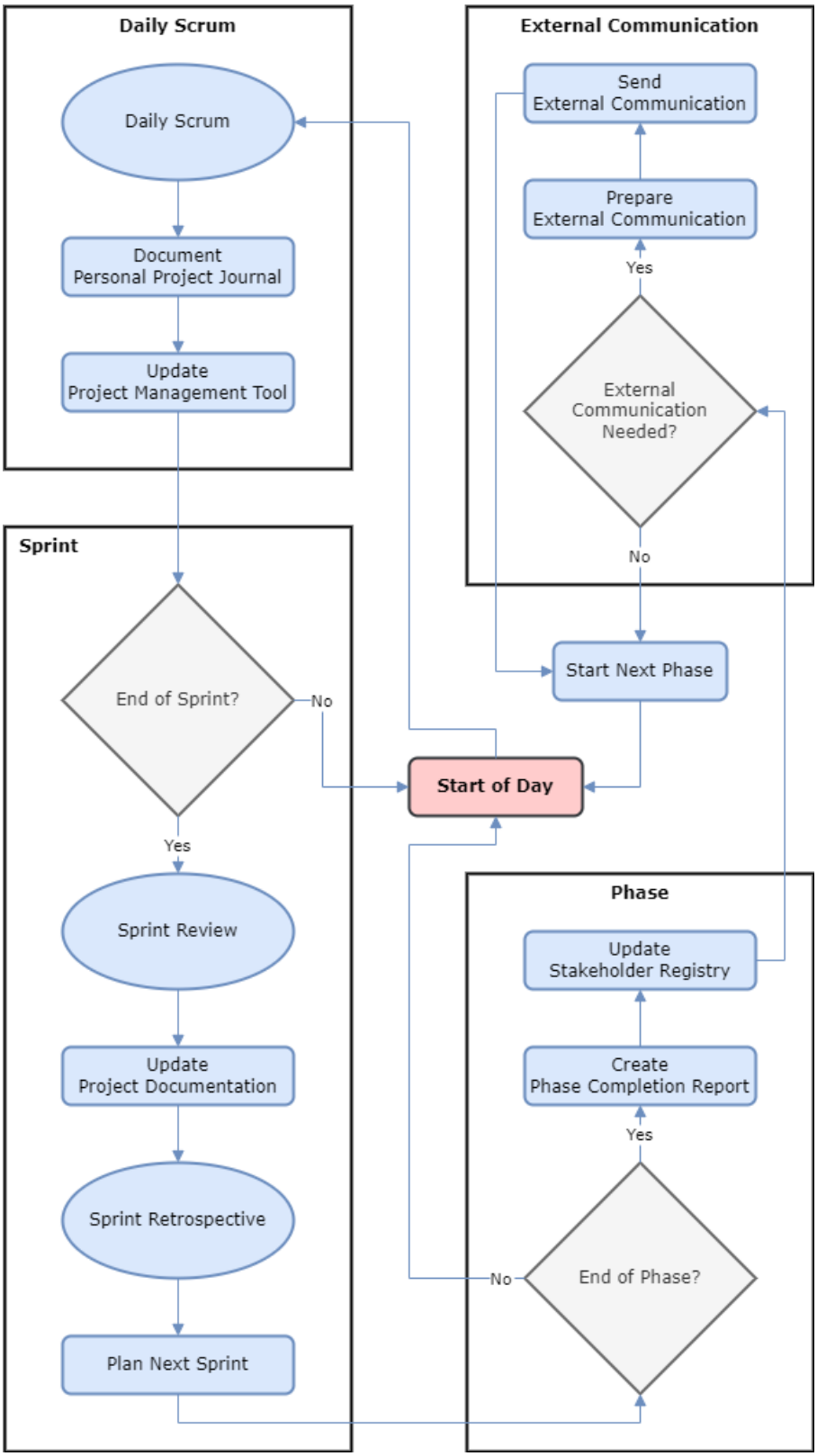
- **Hobbyist indoor growers**
  - Interest: Product functionality, user experience, value proposition
  - Influence: High
  - Engagement Level: Unaware (keep satisfied)
- **Professional indoor growers**
  - Interest: Product functionality, user experience, value proposition
  - Influence: High
  - Engagement Level: Unaware (keep satisfied)

Stakeholder	Role	Project's Impact	Influence on Project
Filip Vallo	Project Sponsor, Project Manager, IoT HW Engineer, SW Architect, SW Developer	High	High
External PCB Manufacturer	Vendor for custom PCB	Low	Low
Cloud Service Provider	Infrastructure for web dashboard	Low	Low
Potential Investors	Possible future funding	High	High
Potential Commercial Partners	Possible collaboration or distribution	High	Medium
Hobbyist Indoor Growers	Target users	High	High
Professional Indoor Growers	Target users	Medium	High

3.2 Stakeholder Communication Plan

Information	Stakeholders	Method	Frequency	Owner
Project status	Project Team	Project management tool	Daily	Filip Vallo
Sprint Review	Project Team	Self-conducted review and documentation	Weekly	Filip Vallo
Phase completion	Project Team	Formal document	End of each phase	Filip Vallo
Project outcome and financial projections	Potential Investors, Potential Commercial Partners	Presentation / demo	Project completion	Filip Vallo
User manual and setup guide	Hobbyist Indoor Growers, Professional Indoor Growers	User documentation	Project completion	Filip Vallo
Design for custom PCB	External PCB Manufacturer	Email	As needed	Filip Vallo
Service requirements for web dashboard	Cloud Service Provider	Cloud service	As needed	Filip Vallo

3.3 Stakeholder Communication Flowchart



3.4 Stakeholder Engagement Strategies

3.4.1 Project Team

- **Filip Vallo** (Project Manager, IoT HW Engineer, SW Architect, SW Developer)
  - Maintaining a project journal for daily reflections and progress tracking
  - Conducting weekly self-reviews aligned with Sprint reviews
  - Setting clear personal milestones and celebrate achievements
  - Engaging with online developer communities for support and knowledge sharing

3.4.2 Current Stakeholders

3.4.3 Future Stakeholders

- **External PCB Manufacturer**
  - Providing clear, detailed specifications for PCB manufacturing
  - Maintaining professional communication and adhering to agreed timelines
  - Seeking feedback on design for manufacturability
- **Cloud Service Provider**
  - Regular reviews of service utilization and costs
  - Staying informed about service updates or changes

3.4.4 Potential Future Stakeholders

- **Potential investors**
  - Preparing a compelling project presentation and demo
  - Developing a clear business case and market analysis
  - Maintaining detailed project documentation and financial projections
- **Potential commercial partners**
  - Preparing a compelling project presentation and demo
  - Creating a Product Specifications document to highlight key features and benefits
  - Preparing use case scenarios demonstrating product versatility
  - Developing a scalability plan for potential mass production

3.4.5 Target users

- **Hobbyist indoor growers**
  - Developing user personas to guide product development
  - Creating user documentation and setup guides
  - Planning for potential beta testing or user feedback sessions on MVP features and usability
- **Professional indoor growers**
  - Developing user personas to guide product development
  - Creating user documentation and setup guides
  - Planning for potential beta testing or user feedback sessions on MVP features and usability
  - Seeking input on advanced features and scalability

3.5 Stakeholder Contact Information

4. GLOSSARY OF TERMS

- **Application Programming Interface** (**API**): A set of protocols, routines, and tools for building software applications. An API specifies how software components should interact and allows different software systems to communicate with each other.
- **Configuration Item** (**CI**): A uniquely identifiable element within a configuration management system, which can be managed and controlled through the configuration management process. CIs can be components of hardware, software, documentation, or any other essential part of a project that requires management to ensure consistency and quality throughout its lifecycle.
- **Daily Scrum** (Daily Stand-up): Formal short daily event of Scrum framework (typically 15 minutes) held every day of the Sprint. It is a key event in the Scrum framework where the Development Team synchronizes their work and plans for the next 24 hours.
- **Internet of Things** (**IoT**): The network of physical objects embedded with sensors, software, and other technologies that connect and exchange data with other devices and systems over the internet. These objects, or "things," can range from everyday household items to sophisticated industrial tools.
- **Minimum Viable Product** (**MVP**): The most basic version of a product that is still functional and usable by early adopters. It includes only the essential features needed to meet the initial user needs and provide feedback for future development.
- **Printed Circuit Board** (**PCB**) - Flat board made of insulating material, typically fiberglass, with conductive pathways or "traces" etched or printed onto it. These traces connect various electronic components such as resistors, capacitors, and integrated circuits, which are soldered onto the board.
- **Raspberry Pi**: A series of small single-board computers developed in the UK by the Raspberry Pi Foundation. It's widely used in IoT projects due to its low cost, modularity, and open architecture.
- **Sensor**: A device that detects and responds to some type of input from the physical environment. The output is generally a signal that is converted to human-readable display at the sensor location or transmitted electronically over a network for reading or further processing.
- **Scrum**: An agile framework for managing complex projects, most commonly used in software development. It is designed to help teams work together, encouraging collaboration, accountability, and iterative progress toward a well-defined goal. Scrum enables teams to deliver high-value products by dividing the work into short, manageable cycles called Sprints.
- **Sprint**: Fixed time-boxed period (usually 1-4 weeks) of Scrum framework during which a Scrum team works to complete a specific set of work items from the Product Backlog. Each Sprint is a mini-project aimed at creating a usable and potentially releasable increment of the product.
- **Sprint Planning**: Formal event of Scrum framework that kicks off the Sprint. During this meeting, the team defines the work to be completed during the upcoming Sprint.

- **Sprint Retrospective**: Formal event of Scrum framework held after the Sprint Review and before the next Sprint Planning, where the Scrum team reflects on the past Sprint to identify improvements for future Sprints.
- **Sprint Review**: Formal event of Scrum framework held at the end of each Sprint, where the Scrum team and stakeholders inspect the increment of the product developed during the Sprint and discuss feedback and future work.
- **User Interface** (**UI**): The point of interaction between a user and a computer system, typically through a set of visual elements like buttons, menus, and icons. It encompasses both the visual design and the interactive elements of a software application.
- **Version Control**: System that records changes to a file or set of files over time so that specific versions can be recalled later. It is essential for managing source code in software development projects.