

Robot Monitoring to Enhance Maintenance Efficiency

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Agenda

1. Project Overview
2. Project Performance Framework
3. Project Issues and Risks
4. Project Plan
5. Benefits

Project Overview

- Monitoring system for internet connected robots
- Integrated Operations Center (IOC)
- Augmented Reality (AR) interface for technicians

RouteScouts



Deanna
Project
Manager



Lucas
Programming
Lead



Joan
QA
Lead



Christina
UX
Designer

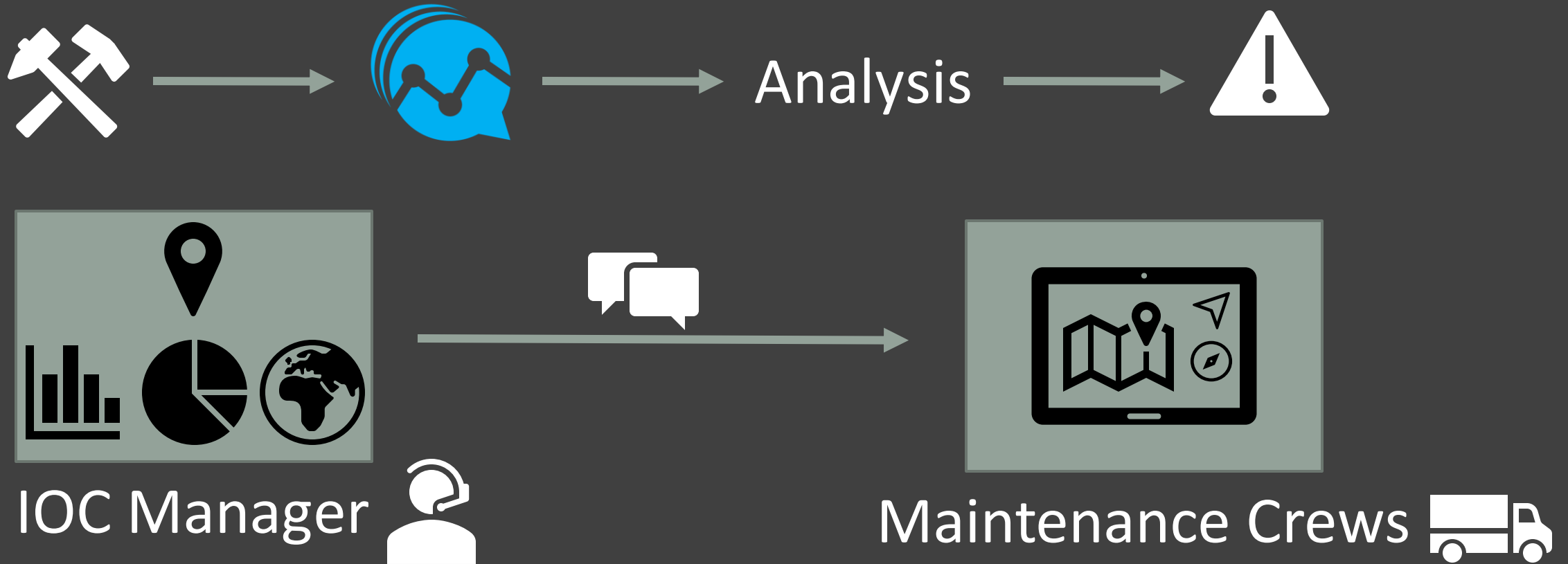
SensorUp



Why Robot Monitoring?

- High maintenance costs for distributed assets
- High fuel usage for travel
- Complex maintenance activities

The Users



Agenda

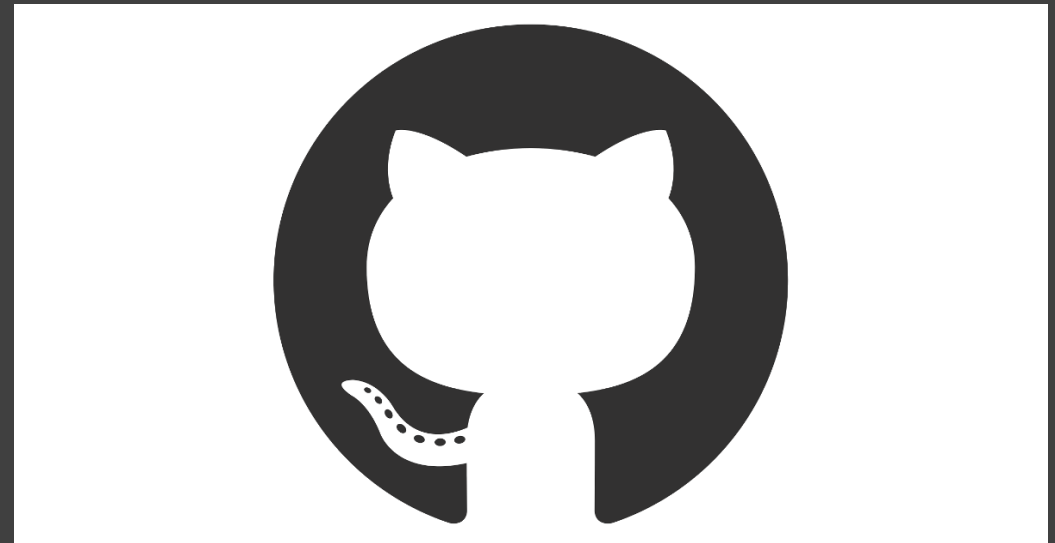
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Objectives, Outputs and Outcomes

- Suggest efficient routes
- Provide technicians with route plan
- AR interface to assist with repairs
- Visualize current and historic data
- Consolidate failure data

Further Development

- Add AR Headset
- Post the project as OpenSource on GitHub

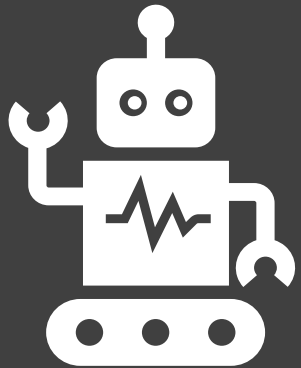


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Issue Identification

Limited knowledge regarding...



Machinery



Sensor Data



Safety Standards

Feasibility and Risk

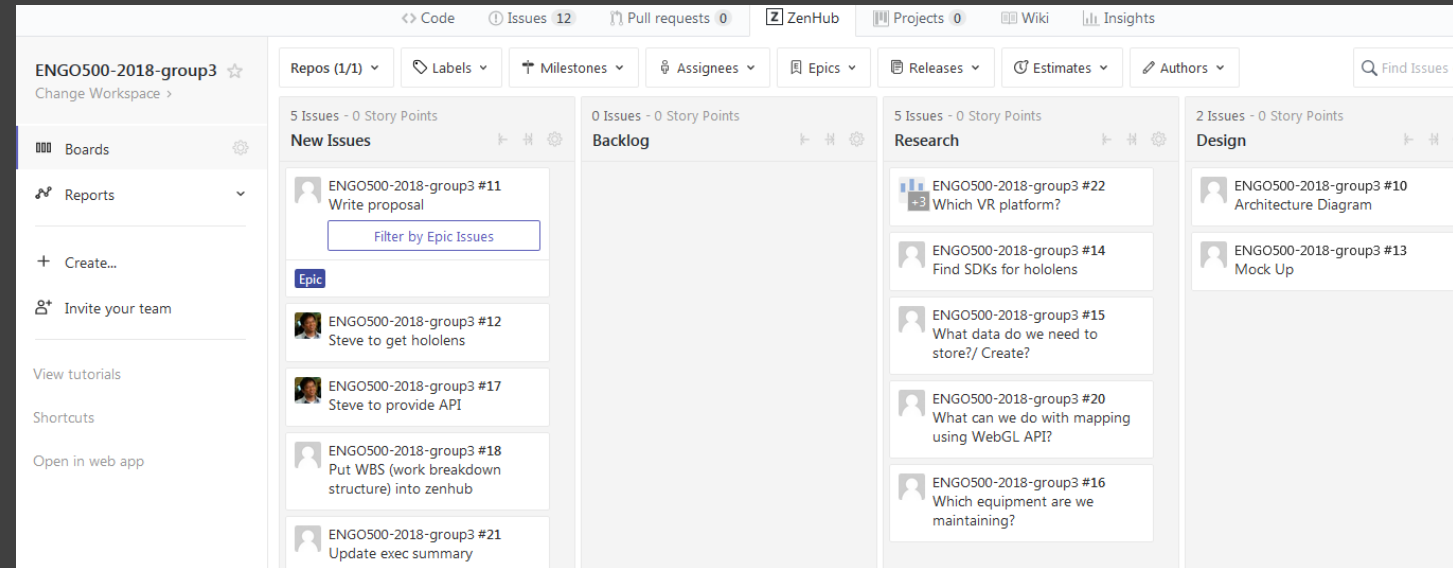
No.	Risk Description	Severity	Probability
1	UI that is not intuitive	M	M
2	Unreliable AR	H	H
3	Ineffective routing system	M	M
4	Poor integration of technology	M	M

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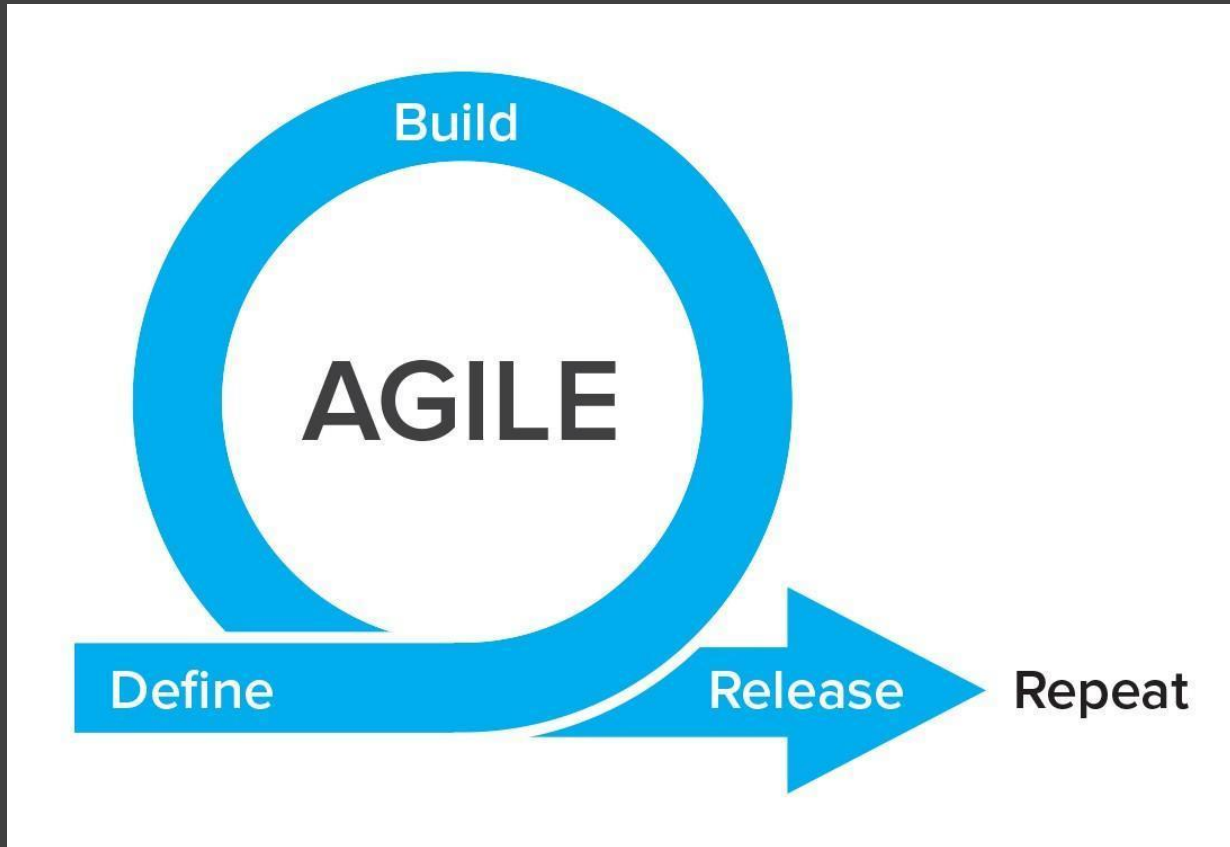
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Agile Project Management

- ZenHub and Git/GitHub for Project Management and version control



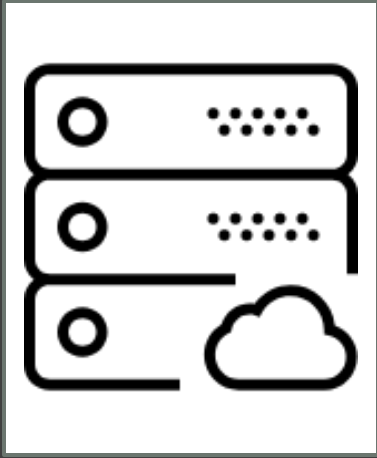
Agile Project Management



- Short delivery cycles
- Quick issue identification
- Reduce risk

Project Implementation Plan

Task and Work Breakdown	Outputs	Expected Delivery Date
Task/User Identification	Document on GitHub detailing the results	Mid November 2018
Prototyping	Paper prototypes	Mid November 2018
Learn tools and framework	Document on GitHub with links to documentation	Mid January 2019
High fidelity prototype	Working UI with functionality	Mid January 2019
Agile sprints	A working project	Mid April 2019



Budget

- Server Cost
- Robot Model
- Capstone Poster



Communication Plan



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Benefits



Questions?

