PODS — Plant Observer & Diagnostic System | Realisation

PODS
Plant Observer & Diagnostic System
by AgrobyteX

Building Environmental Sensor Network — 9
HC: 2 | PS: electronics eng.
- Selecting GSM Gateway to transfer sensors' Data selecting vendors, ordering devices, order Picking testing indoor initial configuration, deploying sensors outdoor, testing outdoor configuration
- Selecting sensors for air/soil temperature measurement, air humidity, soil moisture, solar intensity, leaf wettness

PODS System Design — 8
HC: 2 | PS: systems eng., requirement eng.
- High Level Overview
- Requirement Elicitation on 4 Levels: Stakeholder ~, System ~, Subsystem ~, Component~
- Requirement Management

PODS Software Design & Development Preconditions — 6
HC: 1 | PS: sw. architect
- Tools: Sparx Enterprise Architect V 12.1 UML/SysML Modelling Tool, Spring Tool Suite 4 Eclipse IDE for Enterprise Java Developers 2019-12 (4.14.0), JDK & JRE 13, MySQL 8
- Coding Conventions for C (if embedded hw-development is needed), HTML, CSS, JavaScript, Thymeleaf, Java, ksh, SQL, XML

PODS Software Design — 16
HC: 4 | PS: 3 sw. architect, 1 plant prot. exp.

Backend Design

DB Design
- Relations & Entities in ERD, Generating Physical DB Strutures with EA, Testing SQL Result in MySQL

Backend Server Internals
- High-Level Design: SysML 3.0 Internal Block Diagrams, Data Flow Diagrams, Collab./Seq. Diagrams
- Low-Level Design: Class Diagrams for Internal Input data correctness checking, DB Access, BBCH Estimators, Plant Protection Models, User Interface, Logging, Sensor network Configuration, System Maintenance, Startup/Shutdown

Frontend Design
- UX Design for Smartphones, tablets, desktop computers
- UI Design based on the UX design elements

Producing PODS Test Specifications/Procedures — 8
HC: 2 | PS: 1 sw. architect, 1 systems eng.
- Test cases for backend software components, Test cases for frontend software components, Acceptance Test Specification/Procedure

PODS Software Implementation & Testing — 20
HC: 8 | PS: 3 senior sw. exp., 3 sw progrs, 2 sw tester
- Implementation of backend software components, Implementation of frontend software components, Continuous Testing

Producing PODS Documentation — 12
HC: 2 | PS: 1 systems eng., 1 techn. writer
- Product Manual, Installation Manual, Configuration Manual, Service Manual, Users Manual, Ordering & Pricing Manual

PODS Acceptance Testing — 7
HC: 5 | PS: 1 systems eng., 4 sw tester
- Performing Acceptance Test Specification/Procedure (ATS/ATP)

Legend

PODS Project Phase — CW
Head Count | Proven Skills
- Project Phase Description

1 2 3 4 5 6 7 8 9 10 11 12

1 calendar month

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