# Technical Assessment – Full Stack Developer

Thanks for your interest in joining the InformAG team!

This technical assessment is designed to give us insight into your strategic thinking and your approach to getting things done. We're **NOT** looking for a fully-build, production-ready application. Instead, we want to see an outline of your proposed development plan, including your architectural considerations and a conceptual demonstration of your code.

InformAG is based on the beautiful Sunshine Coast, Queensland, and we're excited to collaborate with talented remote developers. We value engineers who are:

* **Accountable** and take **proactive initiative**, meaning you're happy to own your work and aren't afraid to **ask questions**.
* Focused on **efficient and timely delivery**, understanding the importance of **rapid project turnaround**. We achieve this through **Agile and LEAN principles**, consistently leveraging **modern technologies and development tools**.

# Project Overview - Pump Master Web-App

The **Pump Master** application is a web-based platform that will empower customers in the agricultural sector, to manage their pump assets. These pumps are typically installed on farms and are already seamlessly connected to our existing backend infrastructure.

The core functionalities for the “Pump Master” application include:

* **Secure Tenancy Login**
* **Pump Overview**
  + **Search & Filtering**
  + **Pump Management**
* **Pump Inspection**

(Please see the mock-ups below for more details.)

# Tech-Stack

Please align your planning with the following technology stack:

* **Backend:** An existing backend (incl. API - to which the pumps are already connected) hosted on **Microsoft Azure** and written in **C#**.
* **Frontend Options:** For the Web-application's frontend, you have the flexibility to choose between two ecosystems:
  + **Option A:** A component-based framework utilizing **REACT + VUE**.
  + **Option B:** A highly compatible approach leveraging **Bootstrap + jQuery**.

# Your Deliverables

While a complete application build isn't required, your submission should provide a well-structured plan covering the following essential aspects:

* **Assumptions and Dependencies:** Clearly articulate any assumptions you're making about the projects scope.
* **Web Application Architecture & Code Structure:** Outline your proposed architecture for the web application and explain how you would structure the codebase to ensure scalability, maintainability, and readability.
* **Integration with Existing Backend:** Detail your strategy for interacting with the existing backend.
* **Tooling & Technologies:** Beyond the mandated “Frontend Options”, please specify any additional development tools, libraries, or frameworks you would propose for this project. Please include a clear statement for their selection and how they support the project's goals.
* **Testing and Validation:** Describe your approach to ensuring the quality, reliability, and correctness of the PumpMaster application.
* **Project Timeline & Iteration Plan:** Provide a realistic timeline, outlining key phases or iterations for development, and provide your total estimated efforts.
* **Conceptual Code Demonstration:** A code snippet or an isolated demo showcasing a critical component or a particularly interesting technical challenge you'd solve for this assessment.

This task offers an excellent opportunity for you to showcase your problem-solving skills and technical vision - we highly encourage you to be as direct in your response as possible.

If you encounter missing information, please make a reasonable assumption. Your insights are valuable, and we're here to help you understand the task.

# Mock-ups

## Login Page

A screenshot of a login screen

AI-generated content may be incorrect.

## Pumps (Overview Page)

A screenshot of a computer

AI-generated content may be incorrect.

## Pump Edit Modal

A screenshot of a computer

AI-generated content may be incorrect.

## Pump Page

A screenshot of a map

AI-generated content may be incorrect.