

**Final Year Project Proposal**

**Agricultural Machine Monitoring System**

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Introduction

The idea for this project came from my interest in agriculture. Having spent most of my teenage years around machinery I know first hand the workload these machines go through during the busy summer months of the farming calendar.

Often the only time a problem is found is when it is near / is a breakdown. Breakdowns and stoppages are the Achilles heal of any good contracting company where time and weather are already big factors.

If a contractor had the ability to see all its machines servicing requirements in the palm of his / her hand, without stoppage and without lost time they could plan servicing into their schedule. This would allow preventative maintenance to be completed and in turn should reduce the number of major breakdowns during the busy summer months.

My project would be split into two major sections.

Section 1: Machine side

An Esp32 development board will take in sensor/ CAN information from the machine and relay it wirelessly to the cloud. Also, on the machine side a GPS module will always give a live feed location of the machine, this will also relay wirelessly. Initially I will use WI-FI as the wireless connection medium, however for this technology to be useful in rural areas a GPRS/ 4G module will be necessary.

Section 2: Computer/Cloud Side

This section will be the data processing side of the project. Information taken from the machine will be sent to a computer running Node.js and a MongoDB database.

Once stored I will use a combination of JavaScript and other data visualisation techniques to design an attractive webpage using html, that will be user friendly.

Architecture Diagram

