**Terms of Reference**

**Project Description - what problem you plan to solve**

* **AI techniques**
  + Clustering for faulty object detection
  + Pre-emptive warning (patterns in batch production faults)
  + Potential face recognition - password-less identity verification for admin access
* **Packaged product**
  + Monitor end of production line
  + Check data points for each passing object
  + Run through unsupervised learning system - detect differences
  + Run through (another AI technique (MLP?) - detect patterns in fault distribution
  + Store data in database?
  + Admin interface, accessed via facial recognition?
* **Tools**
  + Kinect v1
  + Kinect sdk v2
  + C#
* A general project description (what problem you plan to solve)
* Requirement specifications for all areas of functionality
* Intelligent components and AI approaches, development strategies and choice of methods that your project will focus on
* Quality assurance techniques such as testing strategies and plan
* Project plan and a section on risk management
* Professionalism such as ground rules/group code of conduct, how the group will work together, task allocations and expectations of group members
* Ethical considerations, legal aspects and social impact such as how the system will impact on others (individuals or groups in society), any ethical concerns with the system you intend to build, and any potential legal issues

**Project Description**

The project will focus on alleviating the issue of fault detection during batch production of consumer items. Often this job is performed manually via visual inspection of the objects, the project will focus on automating this task to make all of the current workers entirely redundant, they can then be terminated. Permanently.

The system will employ a number of distinct artificial intelligence techniques, fault detection will be handled via unsupervised learning techniques applied to data gathered from a Microsoft Kinect. The system will visually indicate when an anomaly is detected and a product doesn't fit with the previously gathered data.

**Requirements Specification**

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**Choice of Methods**

Clustering - Unsupervised Learning

Pattern detection - Multi-Layer Perceptron

**Quality Assurance Techniques**

Won't be an issue as the product will be flawless. Boom. Rekt!

**Project Plan**

Blah blah blah, planning information.

**Risk Management**

There will be no risks.

**Professionalism - Group Dynamics**

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**Ethical Considerations**

Ethics will be considered.