| **Project Title: Inviol Body Camera Project**  **Date:** 25/07/2022 **Prepared by:** Julia Borlase |
| --- |
| **Project Justification:**  Injury in the workplace worldwide occurs every 7 seconds, costing US $250 billion worldwide annually. Within New Zealand, 63% of fatalities are related to motor vehicles, and 80% of these can be avoided by following health and safety measures correctly. Companies have many policies in place to prevent these accidents from occurring, however, over time people become complacent with these policies.  This project will contribute to breaking the habit of complacency among employees and in turn, keep them safe, and create safer workplaces. |
| **Product Characteristics and Requirements:**  **Hardware Requirements:**  Hardware requirements for the project are defined as the requirements that have been set out for the wearable body cameras. They have been discussed and defined with the client and include;   * Camera resolution (pixel resolution) - (640, 480) * 8-hour battery life, enough to last a full work day, needs to take into account the power for the camera, WIFI, GPS, and processor. * Camera size and weight, need to be easily wearable for employees who have active jobs, must be less than 500g * Minimum performance models include: Raspberry Pi, object detector, position estimation * Onboard and post-processing, either combined   **Architecture / Design Requirements:**   * Send messages through the internet from the hardware - to Azure Storage * Detect people, helmets and hi-vis vests * Python Scripts * Hardware restraints * Open source repos to use for model training and detection |
| **Summary of Project Deliverables** - NEW SCOPE  **Project management-related Deliverables:** business case, charter, team contract, scope statement, WBS, schedule, cost baseline, status reports, final project presentation, final project report, lessons-learned report, and any other documents required to manage the project.  **Product-related Deliverables:** research and upskilling reports, design documents (diagrams), code, hardware   * 1. Raspberry Pi Camera   2. Equipment to attach the Raspberry Pi Camera to the body   3. Trained Model   4. Scripts that run on the raspberry pi, connecting to the clients Azure Storage |
| **Project Success Criteria:**  We would deem the project successful when;   * The Raspberry Pi has been acquired and set up * The Raspberry Pi is able to be mounted to a person * The Model has been trained and tested on test footage * Scripts are runnable on the Raspberry Pi to send videos to the Azure Storage and draw boundin boxes on videos taken on the Pi. |

This scope has been updated due to the feedback that has been recieved from the project proposal and the mid-term review.

These changes reflect the work that the team will be able to accomplish in the remain time in the project, and allow us to focus on what we are wanting to demo at the final presentation of the project.