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Group Project

**First Demonstration & Presentation Assessment Sheet**

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| **Group Name/Student Names: Group A**  David Motley, Nicholas Atkins, Hashu Mohammed, Rohit Peruvelil, Christine Shahbazian, Fatemeh Donyamali, Khine Thin Zar Sint, Benedict Chen  **Supervisor: ES** |

The following sections are intended to provide feedback about your performance.

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| **Presentation Skills (25% of overall mark)** | 1+ | 1- | 2.i+ | 2.i- | 2.ii+ | 2.ii- | Fail |
| *Presentation, visual aids, etc.* |  | X |  |  |  |  |  |

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| **Technical Progress to Date (50% of overall mark)** | 1+ | 1- | 2.i+ | 2.i- | 2.ii+ | 2.ii- | Fail |
| *Demonstration of hardware built, software written, equations, etc.* |  | X |  |  |  |  |  |

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| **The Future (25% of overall mark)** | 1+ | 1- | 2.i+ | 2.i- | 2.ii+ | 2.ii- | Fail |
| *Technical merit of proposals for completing the project. Adequacy and appropriateness of workplan.* |  | X |  |  |  |  |  |

Total grade allocated [in 1+,1-,2.i+,2.i-,2.ii+,2.ii-,F]: 1- .

# Comments And Advice

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| The presentation achieved a good balance of team management, system decomposition, and technical content given the stated objectives of the session. The technical discussion of the RC unit was delivered at an architectural level which was generally appropriate for the audience, but masked a substantial element of technical achievement. Other hardware and architectural discussions also seemed to have been abridged. The presentation lacked a general introduction into the technical vision processing elements which meant that a number of methods were then discussed with limited contextualisation or introduction  Very good progress overall. We liked the way that you got work done and did not let project management get in the way. 2 off board methods: single or dual control board. You considered the single control board to be simpler. It has fewer components but the integration is more critical. It could be argued to be more complex or more demanding. Raspberry Pi not good enough. There are other powerful linux boards. Look at Odroid or  UDOO. A good choice of RC car. Strong large car: adjustable suspension which reduce camera shake. Not convinced that the suspension is a major factor but the strong chassis is important Used laser cutter to make a base board which looked professional.  Emergency stop via mobile ? This perhaps needs more thought.  Disparity well explained. Need for calibration or a method that is self calibrating. Used OpenCV stereoBM function. Guessed camera parameters. You need a more rigorous approach. Think what ideas you will introduce. Don’t rely on just a series of library function calls. Optical flow method: Lucas Kanade versus Gunnare farneback methods. Need to focus on a decision. The feature detection was very good. Explain this in the report. .Edge detection is not the Canny Operator. See paper on IEEExplore. The Canny operator is more complex but not does not have a much higher computational complexity. Hough Transform is for straight line detection. Hough transform is memory hungry, slow and difficult to optimise.  You will have to expend significant effort on integrating the disparity/depth frames with your navigational algorithm. Do not under-estimate this as it will require some research and experimentation.  Good future plan ideas.  Spent £490, 41% of budget. Major expenses gone.  The demonstrations were well set-out, extensive, and well discussed. Each element demonstrated a valid body of work in its own right and in many cases supported the explanations from the presentation extensively.  The team made a good show during the question and answer question. Obviously there are things that they still need to work on, but by fielding questions to the appropriate members they were able to demonstrate a good understanding of the material. |

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| Project Team Assessors MS,ES,DP Date: .9 December 2014 |