## EE3032 Mark Sheet for Final Demonstration (20%)

|  |  |  |  |
| --- | --- | --- | --- |
| **INSTRUCTIONS TO STUDENTS** | **For Official Use**  **Examiner and Overall Impression** | | **Total**  **[200 Marks]** |
| **Fill in the shaded fields using a word processor and provide your identification pictures.**  **A completed copy of this form must be uploaded to wiki, and printed for each examiner.** | |  |  | | --- | --- | | **RCP** | **HT** | | **HCY** | **LLC** | | |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  |  |  | |  | |  | |  | |  | |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Team Number:** | ***Click here to enter text.*** | | **Academic Year:** | ***Choose an item.*** | | **Semester:** | | ***Choose an item.*** |
| **Project Title:** | ***Click here to enter text.*** | | | | | | | |
| **Member Name:** | ***Click here to enter text.*** | ***Click here to enter text.*** | | | ***Click here to enter text.*** | | ***Click here to enter text.*** | |
| **Member Picture:**  *Include an identification picture that easily identifies you, under your respective member name. The identification picture can be from IVLE, or a recent picture* | |  | | --- | |  | | |  | | --- | |  | | | | |  | | --- | |  | | | |  | | --- | |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria** | **Description** | **Max. Score** | **Awarded Score** |
| **Hardware and Software Implementation**  ⏵To assess the efficiency and effectiveness of the complete system in fulfilling the project objectives. Better system integration scores more  If the complete system consists of simple or very common features, marks will be adjusted (reduced) accordingly. Example: It is easier to achieve robustness, control and calibration if keypads and bare servos are used, as compared to touch screen and motors with connected mechanisms and advanced algorithms | Calibration and accuracy of input devices | 10 |  |
| Effective control of output devices | 10 |  |
| Logical and efficient program flow | 10 |  |
| Robustness of the complete system | 10 |  |
| Intelligence of the complete system | 10 |  |
| **Design and Integration**  ⏵To assess the conceptualisation and workmanship of the prototype  If the size constraint is exceeded by a few centimetres, reasons that are valid beyond doubt must be provided if asked. The marks awarded will still vary among examiners, as each examiner will use his own judgement in deciding whether the prototype could have been reduced in size | Planning | 10 |  |
| Originality | 10 |  |
| User-friendliness | 10 |  |
| Usefulness of project | 10 |  |
| Workmanship of prototype | 10 |  |
| Meeting size constraint (< 30cm X 30cm X 30cm) | 0 or 5 |  |
| **Presentation**  ⏵ To assess effectiveness and quality of presentation  Having long and ineffective talks, particularly because the system has limited capabilities, score less | Explanation is clear and concise | 10 |  |
| Effective use of Block diagram / slides / prototype / props | 5 |  |
| Keep to the time given (Start and end on time) | 0 or 5 |  |
| **Detail of System Features**  ⏵ Award of scores will be based on relevance (R), implementation (I) and complexity (C) of the features. Creativity or innovativeness has an impact on the three criteria formerly mentioned. The three criteria are described in non-exhaustive details below:  **Relevance:** Is the feature, hardware, middleware and algorithms reasonably useful for project? Will the feature be implementable or can it be up-scaled in real life considering the current technological limitations, possible budget constraints or environmental concerns? Are the hardware used justified? Is the majority of the processing done on the ARM processor (MATLAB processing, webcam connected to laptop have lower grade impact as compared to LPC interfacing and programming)? How much realistic considerations were placed into such feature?  **Implementation:** Was the demonstration successful without much issue? How impressive was the demonstration? Did the demonstration involve too many assumptions or manual manipulations? Is the system optimised in terms of microcontroller (LPC1769) usage? Was responsiveness and processing resources considered, such as avoiding delays and inefficient loops, while considering proper usage of interrupts and polling? Does the feature completely avoids the use of the IDE debugger and instead focuses on protocols like UART, I2C, Ethernet, SSP to transfer data and display information? Are batteries used for standalone projects, and how aware were the students in terms of battery capacities and hardware power usage? Was the feature optimised in terms of LPC1769 pins usage? How much hours of efficient work would be required for such feature?  **Complexity:** Did the student consider advanced algorithms? If database is involved, did the student consider the use of advanced database methods instead of IF/CASE statements? Did the student use HTTP web pages, Java or Visual Basic GUI to aid in the displaying of information? How much changes/amendments are involved for downloadable libraries before the student is able to meet the specification of the feature? Are advanced mathematical formulas, computational intelligence algorithms, controllers, filters involved? How complex is it to program and use the chosen hardware and/or supporting GUI interfaces? How much general and specialised knowledge or skills would be required for such feature? | **[0] Capacitive screen: SSP, LDR: ADC, LED control: UART, Motion sensor: I2C**  User authentication: Achieved through a sensitive and accurate multi-point gesture recognition on a capacitive touch screen, with backlight power saving determined every 3 seconds through (median) filtered LDR data and selective motion sensing  *Describe the five features to be graded. Complete, complex and distinct features score best. Features that are similar in terms of hardware or algorithms will not be highly impressionable* | **⮜ Example:** Include brief details on the main interfaces, sensors and hardware on the first line of each feature description (Max. of 1 line).  The remaining feature description must not exceed 3 lines | |
| **[1] *Click here to enter text.***  ***Click here to enter text.*** | R: 5 |  |
| I: 5 |  |
| C: 5 |  |
| **[2] *Click here to enter text.***  ***Click here to enter text.*** | R: 5 |  |
| I: 5 |  |
| C: 5 |  |
| **[3] *Click here to enter text.***  ***Click here to enter text.*** | R: 5 |  |
| I: 5 |  |
| C: 5 |  |
| **[4] *Click here to enter text.***  ***Click here to enter text.*** | R: 5 |  |
| I: 5 |  |
| C: 5 |  |
| **[5] *Click here to enter text.***  ***Click here to enter text.*** | R: 5 |  |
| I: 5 |  |
| C: 5 |  |
| **Penalty Multiplier (As determined separately by each examiner)**  ⏵You are encouraged not to delay the final demonstration. Delays may not be granted if assessment timeslots are not available. | |  |  |  | | --- | --- | --- | | **PS remarks from CA2**  **not implemented** | **Final demo is delayed**  **on the demo day** | **Final demo is rescheduled to the next day and beyond** | | x 0.75 | x 0.90 | x 0.75 or x 0.50 | | **Sub-total Marks Before the Application of Optional Penalty** |  |