***C.A.E Logbook***

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| **Date** | **Time Spent** | **Task** | **Member zID** |
| 10/06/21 | 3 hrs (Lab) | Team formation.  Weekly team meeting  *Discussion/Tasks Completed:*   * Member introductions (Arielle Hui, Daniel Huang, Daniel Lin, Jovanni Tjuandi, Nethmini Alahakoon). * Icebreakers to learn more about each member & get comfortable. * Trade contact information and set up messenger group for team communications. * Brainstorm ideas for company name. Ideas include Cough Etiquette, Sky and Army. Cough Armie Etiquette was selected as the company name. * Officially registered team on MTRN4230 Moodle page. * Joined GitHub Classroom and & set up group’s major project repository. * Brainstormed ideas on what to do for project. Popular ideas include tic-tac-toe game, fold clothes, make juice (sort fruit & put fruits into blender to order). Decided on doing a tic-tac-toe game against Ur5e for project.   *Task Allocations:*   * Organisational Structure and Staffing Management Plan form PMP (Arielle Hui). * Change Management Plan and Scope Management Plan (Daniel Huang). * Risk Management Plan and Communication Management Plan for PMP (Daniel Lin). * Project Scope and Quality Management Plan for PMP (Jovanni T.) * Initial Milestones and Deliverables and Schedule Management Plan for PMP including initial Gantt Chart (Nethmini A.) | *Attendance:*  Arielle Hui  Daniel Huang  Daniel Lin  Jovanni T.  Nethmini A. |
| 14/06/21 | 1 hr | Completed the Milestones and Deliverables for PMP. | Nethmini A. |
| 15/06/21 | 6 hrs | Wrote up the Project Scope and Quality Management Plan. | Jovanni T. |
| 15/06/21 | 2 hrs | Completed PMP: Organisational Structure. | Arielle Hui |
| 16/06/21 | 2 hrs | Completed PMP: Staffing Management Plan. | Arielle Hui |
| 16/06/21 | 1 – 2 hrs | Completed Change Management Plan and Scope Management Plan. | Daniel Huang |
| 16/06/21 | 4 hrs | Wrote up Risk Management and Communication Management Plans. | Daniel Lin |
| 17/06/21 | 2 - 3 hrs (Lab) | Weekly team meeting  *Discussion/Tasks Completed:*   * Completed discussion of what to include in the project scope. * Reviewed the Staffing Management Plan and finalised decisions on what roles each member of the group will be responsible for. * Reviewed and finalised the initial Milestones and Deliverables list. * Further researched and discussed the Organisational Structure to finalise it. * Finalised the information for each component of the Project-Management-Plan (PMP)   *Task Allocations:*   * Complete PMP components and upload to GitHub in Markdown format (everyone). * Complete individual reflections and do Pull Request for MP-I1 (everyone). | *Attendance:*  Arielle Hui  Daniel Huang  Daniel Lin  Jovanni T.  Nethmini A. |
| 18/06/21 | 2 - 3 hrs | Completed Schedule Management Plan for PMP including initial Gantt Chart. | Nethmini A. |
| 18/06/21 | 1 hr | Completed Individual Reflection & submit Pull Request for MP-I1. | Daniel Huang |
| 18/06/21 | 2 hrs | Completed Individual Reflection & submit Pull Request for MP-I1. | Arielle Hui |
| 18/06/21 | 2 hrs | Completed Individual Reflection & submit Pull Request for MP-I1. | Jovanni T. |
| 18/06/21 | 1 hr | Completed Individual Reflection & submit Pull Request for MP-I1. | Daniel Lin |
| 18/06/21 | 2 - 3 hrs | Completed Individual Reflection & submit Pull Request for MP-I1. | Nethmini A. |
| 24/06/21 | 2 - 3 hrs (Lab) | Weekly team meeting  *Discussion/Tasks Completed:*   * Looked into MP-G2 and started working. * Was informed that team member Daniel Huang will be dropping MTRN4230 course therefore will not be participating in this project. * Started planning and ideas for project requirements and specifications.   Stakeholders – investors/sponsors, users  Tic tac toe – setting - Arcade game  Safety:   * Users minimum age 15 * Game play area surrounding robot & configure safety plane to that area. * Limit on who is allowed in the game play area. * Appropriate maximum operation speed * Safe to use game pieces (no sharp edges and appropriate maximum weight).   Users:   * Enjoyable, provide a challenge. * Accessibility * User interface * Easy to operate (on/off) * Simple interface   Investors/Sponsors:   * Robust system * Durable game pieces etc. * Profitable somehow (make some money!!) * Also discussed ideas on what to put in the Test Plan. * Since the project group members were reduced to four, it was decided to review the PMP to ensure the project was achievable.   *Task Allocations:*   * Review Project Management Plan and take notes on anything that requires changing (everyone). * Start on ideas for Requirements Analysis and specifications for the project (everyone). | *Attendance:*  Arielle Hui  Daniel Huang  Daniel Lin  Jovanni T.  Nethmini A. |
| 24/06/21 | 30 mins – 1 hr | Added to requirement analysis ideas, test plan and wrote up some test case scenarios. | Nethmini A. |
| 28/06/21 | 1 – 2 hrs | Due to sudden COVID lockdown a MS Teams Group was created for communication and held first team meeting on MS Teams.  Weekly team meeting  *Discussion/Tasks Completed:*   * Replanning of the project: discussed new possible roles of each member and changes to the Staffing Management plan that should be made.   + - Project Manager (Arielle)     - Lead Programmer (Daniel)     - Programmer (Jovanni)     - Technical Writer (Nethmini) * Reviewed complexity of project and what was achievable with only four members. Final decision: the overall project scope and tic-tac-toe game with Ur5e did not change. * For project Requirement Analysis and Specifications – decided to format it using User stories and Acceptance Criteria in a table. * As a team, wrote three Epic user stories and completed the user stories (Role-Goal-Benefits) for each of them. * As a team, wrote the Acceptance Criteria (Specifications) for the user stories. * Formatted Test Plan into a table. Test cases were created to test each of the specifications (Acceptance Criteria) of all the user stories.   *Task Allocations:*   * Finalise updated PMP (Arielle, Nethmini). * Finish off Test Plan (Daniel, Jovanni). * Work Breakdown Structure [WBS] (Arielle). * Write up new Milestones and Deliverables List (Nethmini) | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 28/06/21 | 2 hrs | Wrote up a new more thorough Milestones and Deliverables List. | Nethmini A. |
| 29/06/21 | 3 hrs | WBS: Individual write-up. | Arielle Hui |
| 29/06/21 | 6 hr | Wrote up Requirements Documentation and finished up Test Plan. | Jovanni T. |
| 30/06/21 | 1 – 2 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Finalised the all the User Stories (Requirements) and Acceptance Criteria (specifications) for all. * Looked through WBS & finalised the tasks and start/end times. * Reviewed the completed Milestones and Deliverables List. * Distributed work & assigned each task on the WBS to members.   1. Game Piece and Board Creation (everyone)   2. 2 User Interface (Arielle)   3. 3 Robot Arm Programming and Control (Jovanni)   4. Camera Programming and Control (Daniel)   5. Game Supervisor System (Daniel, Arielle)   6. Game Logic Algorithm (Jovanni)   7. Safety Features (Nethmini)   8. User Manual and Safety Documentation (Nethmini)   9. Test Cases (everyone)   10. System Integration (everyone) * Discussed Resources List for MP-G2 and started working on it. * Average Australian Employee PayScale * Average salaries for the following employment positions Project Manager, Senior Programmer, Software Programmer and Technical Writer.   *Task Allocations:*   * Complete Resources Document for MP-G2 (Daniel). * New Detailed Gantt Chart and update Schedule Management Plan in the PMP (Nethmini). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 30/06/21 | 3 – 4 hrs | Based on the completed WBS, created a new detailed Gantt Chart including task allocations. | Nethmini A. |
| 01/07/21 | 4 hrs | Wrote up Resources Document for MP-G2 Assignment. | Daniel Lin |
| 01/07/21 | 4 - 5 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Looked over Resources documents. * Reviewed the Gannt Chart. * Finalised all necessary components for MP-G2. * WBS and Baseline Schedule: finalised some Test Cases Tasks. * Reviewed Resources List. * Milestones and Deliverables List. * Final update of the PMP.   *Task Allocations:*   * Proofread all components of MP-G2 and ensure all documentations are up to date (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 01/07/21 | 30 mins | Did some initial game pieces and board designs (material section and sketches). | Nethmini A. |
| 02/07/21 | 45min | Weekly team meeting  *Discussion/Tasks Completed:*   * Looked through the updated PMP, Requirement Analysis and Specifications.   *Task Allocations:*   * Submit pull request for MP-G2 (Arielle). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 05/07/21 | 1 hr | Worked on the Safety features. | Nethmini A. |
| 05/07/21 | 2 hrs | Winning check program flow. | Jovanni T. |
| 06/07/21 | 2 hrs | Algorithm for easy and difficult robot decision making. | Jovanni T. |
| 07/07/21 | 4 hrs | Wrote up Resource’s document, contributed to Requirement’s analysis. | Daniel Lin |
| 08/07/21 | 4 - 5 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Discussed and outlined program behaviour. * Spent meeting going through and completing Lab04 together.   *Task Allocations:*   * Complete Lab04 & Lab05 to understand using ROS (everyone). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 07/07/21 | 2 hrs | Worked on Class diagram design. | Jovanni T. |
| 09/07/21 | 1 hr | Look up options for interface using MATLAB. | Jovanni T. |
| 12/07/21 | 2 hrs | Setup workspace for development and overall program flow. | Jovanni T. |
| 14/07/21 | 3 hr | Due to the continued COVID lockdown physical Ur5e robots will not be used, and projects will be completed through simulations.  Weekly team meeting  *Discussion/Tasks Completed:*   * Due to completing project through VM simulations discussed the potential changes that must be made to the PMP, Requirement Analysis and Specifications. * Replanning project * Set up the updated MTRN4230 VM. * Looked into Gazebo.   *Task Allocations:*   * Complete Safety Features (Nethmini). * Algorithms typed up: Class Diagram (Jovanni). * Complete basic User Interface on URsim (Arielle). * Program flow documentation: Flowchart (Daniel). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 14/07/21 | 1 hr | Wrote up Validation checking flowchart | Daniel Lin |
| 14/07/21 | 1 hr | Completed Safety Features. | Nethmini A. |
| 14/07/2 | 45 mins | Complete basic User Interface on URsim. | Arielle Hui |
| 15/07/21 | 1 hr | Completed Class Diagram. | Jovanni T. |
| 15/07/21 | 1 – 2 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Lab work. * Discussed what to do for the project and the timeframe it takes for those tasks to be completed. * Discussed how final project will be put together in simulation.   *Task Allocations:*   * Complete Lab (everyone). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 15/07/21 | 1 hr | Worked on Documentation write-up. | Nethmini A. |
| 16/07/21 | 2 hrs | Drafts of ROS Node diagram. | Jovanni T. |
| 16/07/21 | 2 hrs | Declare confirmed nodes. | Jovanni T. |
| 18/07/21 | 4 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Reviewed PMP and adjusted Project Scope: playing tic-tac-toe game against Ur5e robot through a simulation in VM. * Some User Stories were removed while others were changed to suite the new circumstances. It was reduced to a total of eleven User Stories and new Acceptance Criteria (Specifications) were written for them. * Update Test Plan to fit the new User Stories and Acceptance Criteria. * According to the replanning, adjusted the WBS tasks including the completion time for each task.   1. Game Piece and Board Design Simulation (Nethmini)   2. User Interface (Arielle)   3. Robot Arm Programming and Control (Jovanni, Nethmini)   4. Camera Programming and Control (Daniel)   5. Game Supervisor System (Daniel, Arielle)   6. Game Logic Algorithm (Jovanni)   7. Documentation Write-Up (Nethmini)   8. Test Cases (everyone)   9. System Integration (everyone) * Update Resources document for the new specifications.   *Task Allocations:*   * Adjust and update the Gantt Chart (Nethmini). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 18/07/21 | 2 hrs | Read information on Gazebo and completed the tutorials on the website. | Nethmini A. |
| 19/07/21 | 2 hrs | Program Flowcharts. | Arielle Hui |
| 19/07/21 | 1 hr | Publisher/Subscriber Diagram: Created v1 and  contributed to all other versions. | Arielle Hui |
| 20/07/21 | 1 - 2 hrs | Researched QT Program: Individual Contribution (ongoing). | Arielle Hui |
| 21/07/21 | 6 hrs | * Set up ROS package in GitHub. * Set up Controller * BoardState * ImageProcessor nodes with dummy testing. * Wrote up msg and srv files for communication between Controller and ImageProcessor. | Daniel Lin |
| 21/07/21 | 1 – 2 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Typed up all the changes made for the Variation Request. * Discussed further adjustments to Gantt Chart. * Discussed material and formatting of Progress Report.   *Task Allocations:*   * Submit Pull Request for Variation Request (Arielle). * Adjust and update Gantt Chart (Nethmini). * Work on Progress Report (everyone). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 21/07/21 | 1 – 2 hrs | Designing game board using Gazebo. | Nethmini A. |
| 22/07/21 | 1 - 2 hrs | Weekly team meeting  *Discussion/Tasks Completed:*   * Discussed Progress Report. * Ensured the pull request for Variation Request was submitted. * Checked types of board designs and discussed a bit & tried to solve some modelling issues on Gazebo.   *Task Allocations:*   * Complete and submit Progress Reports (everyone). * Continue working on the project tasks assigned to each member (everyone). | *Attendance:*  Arielle Hui  Daniel Lin  Jovanni T.  Nethmini A. |
| 22/07/21 | 2 – 3 hrs | Inkscape installation and went through tutorials. Designing game board using Gazebo and Inkscape. | Nethmini A. |
| 23/07/21 | 30 mins | Updated Gantt Chart. | Nethmini A. |