Australian National University

Weekly and Audit Summaries

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1 Audit Summaries

This section details the relevant files and their location in the repository. Only the most recent audit will be mapped (full trace in the repository listed), due to files being relocated or updated.

The structure of the links (eg. `./Current_Status/Weekly_And_Audit_Summaries.pdf`) indicates that you should go to the top level, and then go to the `Current_Status` directory, and view/open this file.

Audit 2

Key Decisions and Outcomes:
In this audit period, we have completed Phase 2 and 3 of the project. These phases include producing design reports for each of the work packages and the project handover documentation. The key outputs from this are detailed below.

Finalisation of the Updated System Subsystem Specifications document. This involved continuous updating as new information became available, and will likely continue to do so as the project continues. The information in this document reflects the current state of the project.
Work-packages have been finalised, with team members working on each subsystem. The overall package assignments have remained consistent. These were the key components of the second phase, and have been completed. These are detailed further below.

Client and stakeholder communication has also extended, as the contract with the ANU Laser developer has been established, allowing us to obtain additional information from the vendor. This brought about a series of changes and updates to the requirements, and hence the work packages. Due to the late stage in the project that this occurred, components of this work will need to be continued by the following team, however requirements have been made clear.

The group continued to work as a team at Stromlo from 9-5 on Fridays, and did so through the teaching break. Additional work has been completed off site, as specific tasks were assigned that were able to be done this way. The team will go to Stromlo for the final time on Friday Week 11 to complete handover with the client and key stakeholders.

Key files:

- `./Current_Status/Weekly_And_Audit_Summaries.pdf` (This document):
- `./Project_Deliverables/ProForma_Ver005.pdf`: This file contains a project overview, scope, work package breakdown, schedule (the three phases, Gantt chart), and risk identification and analysis. This demonstrates understanding of the project, as well as decisions made for scheduling, work breakdown, and risk assessment. This document has seen little change since last audit, however the work package diagram has been updated to reflect the final project breakdown. This is a useful resource for an overview of the project.

- `./Project_Deliverables/Updated_System_Subsystem_Specifications_Ver004.pdf`: This is our finalised updated version of the previous teams System Subsystem Specifications document, (./Previous_Team_Work/Artefacts/System_Subsystem_Specifications.pdf). This shows the work done on analysing the previous teams set of requirements, which required many key decisions to be made on validity of measurements, the relevant additional information available, and the new changes to the conflicts. This demonstrates a large number of decisions that were made, and acts as a resource for our work package reports.

- `./Current_Status/Project_Hours.xlsx`: Google sheet link supplied in folder readme. This details the hours and tasks that each member has completed.

- `./Project_Deliverables/Mechanical_Subsystem_Design.pdf`: This document is the work completed on the mechanical subsystem. It details the design components, the justifications behind these design components, and any additional work required.

- `./Project_Deliverables/Electrical_Subsystem_Design.pdf`: This document is the work completed on the electrical subsystem. It details the design components, the justifications behind these design components, and any additional work required. This system is the most ambiguous of the workpackages, due to the lack of available information at hand due to the redesign of the EOS laser and the lack of information for the ANU laser.

- `./Project_Deliverables/Environmental_Subsystem_Design.pdf`: This document is the work completed on the environmental subsystem. It details the design components, the justifications behind these design components, and any additional work required.

- `./Project_Deliverables/CoDR.pdf`: This document is the final report for the project that will be released, acting as a high level summary of the work package reports.

Key Directories:

- `./Current_Status`: This folder contains key files indicating the current status of the project, many detailed above.

- `./Meeting_Minutes`: This folder contains the minutes of all project meetings and communication between group members. These show the important points made in each meeting. These detail many key decisions that were made, as well as information attained.

- `./Client_Communications/Meeting_Notes`: This folder contains all of the communications with other stakeholders or points of information. These communications are relevant to some of the decisions made in updating the System Subsystem Specifications document. These detail the source of many key decisions that were made.

- `./Project_Deliverables`: This directory contains all final project outputs.

- `./Working_Files/Project_Background_Information`: This folder contains documents on the background theory of the project. These were not produced by us, but any reader may have an interest in the more technical science or information behind it.
- `./Working_Files`: This directory is a holding place for all files with their previous versions, as well as files that were seen above. This shows the updates of the ProForma document, as well as other files of interest.

2 Weekly Scheduled Events

Scheduled Recurring:

- Repository Submission - Monday 9am - (Audit Weeks Only)
- ENGN4221 Tutorials - Mondays 1300-1400 - Weekly
- Field Work at Mount Stromlo Observatory - Friday 0900-1700 - Weekly
- Tutor Meetings at Stromlo - Friday 0900 - 1000 - Weekly
- Client Meetings - Friday 1400 - Weekly

Scheduled One-Off:

- Telescope and Laser Lab Induction / Tour - Friday 3 - 11/08/2017
- Telescope Final Induction - Friday 5 - 25/08/2017

Other:

3 Weekly Summaries

Week 3

Key events:
Meeting on Thursday 10/08/2017

- Decided on roles
- Produced pro forma document

Orientation/Tutorial on Friday 11/08/2017

- Reviewed repository, added missing or incomplete sections
- Guided tour of the laser laboratory and telescope
- Possibly allowed to modify telescope mounting bracket
- Access needed to the encoder

Week 4

Key events:

- Worked on verifying and clarifying all of the requirements so far -¿ progress made on removing unnecessary requirements and adjusting existing ones based on changes in the situation, but another meeting with James Webb is required to follow up on the rest of them.
- Identified all possible scenarios regarding the timing of the installation of the laser in terms of configuration, and producing conceptual designs.
- Took measurements of the interior of the telescope in order to satisfy space requirements, as well drawing diagrams indicating the positions of the powerpoints for the electricity requirements
- Met with the client (Celine) and updated her on the progress of the project thus far; work that has been done on requirements and design so far, and the expected division of work in the future.
- Went through feedback received and detailed the corresponding actions taken (See `Feedback_Action_Audit_1.xls`

Week 5

Key Events:

- Analysis of previous teams requirements completed, interim document added. This indicates completion of Phase 1 of the project.
- Preliminary CAD drawings of mounting structure generated
- Conflicts between current and previous measurements, as well as temperature, power, etc. addressed
- Risk Matrix updated to include key risks that may occur, as well as the mitigations for these
- Work Packages determined, initial assignments of team members to these packages have been made
- Full telescope induction complete, allowing proper (unsupervised) access to the dome

Week 6

Key Events:

- Met with Mark to discuss frame design and opaque paneling taken into consideration due to laser safety
- Most likely scenario will be two tiered frame after talking to James Webb
- Vibration analysis and measurements are an option to further explore taking chillers into consideration
- Interfacing with EOS and ANU to begin creating a template for Concept Design Report (CoDR)
- Planned possible absences and expectations with client over the break

Term Break 1

Key Events:

- Modifications to number of breadboards needed and the frame and consulted Mark regarding changes
- Vibrationally sensitive equipment placed in clean room after meeting with James
- Final decision to not measure vibration in clean room as it's assumed other equipment is sensitive
- Air flow of air filtration system may disrupt laser and beam transfer optics (BTO)
- anti-static flooring and non-conductive flooring discussed with Celine
- CoDR Latex template made and commenced
- CANBUS and ethernet TBC with James Webb
- Laser safety requirement covered due to higher power lasers operating

Term Break 2

Key Events:

- Measurements of cable routing were taken for both distance from clean room to telescope and entry floor to observation deck
- Finalisation of preliminary frame design to include metallic inserts to prevent buckling and consideration of opaque paneling design to adhere to laser safety regulations
- Updates to cooling requirements and capabilities to finalise deign recommendations for ANU laser
- CoDR template discussed with EOS and Celine, minor changes made
- Vibration requirements and air filtration system finalised

Week 7

Key Events:

- ANU laser vendor meeting addressing list of design recommendations and requirement conflicts (i.e. cooler temperature, auxiliary cabinet size, cabling, etc.)
- Client (James and Celine) and stakeholder (Mark) project progress presentation and discussion
- Group meeting discussing next steps for audit and handover
- Initialisation of subsystem design justification documents for handover and referencing in CoDR

Week 8

Key Events:

- Established report and poster deadlines
- Acquired additional cooler information from Y. Gao.
- Secured vibration-measuring equipment for a test in Week 9
- Decided on poster design
- Produced poster draft

Week 9

Key Events:

- Finalisation of work-package reports
- Vibration measurements taken withing the telescope dome
- Poster Finalised
- CoDR report moving progression

Week 10

Key Events:

- Final update and edits to work-package reports
- Finalisation of CoDR
- Completion of handover document
- Scheduling of final client meeting