

Tutorial Documentation (Week 4)

19th March 2019, 8am - 10m

Audit 1

Floating Buoy Chassis

Project vision, goals and objective:

- Design and build a chassis that supports the technical components of the client's project, while delivering modularity accessibility and robustness. The design shall be justifiable and rigorously tested and validated.

Key stakeholders

- William (Client) – Student, good team/client relationship
- Chassis group
- Course staff and tutors (Chris Browne and Adnan)

Resources, risks and potential costs:

Key resource: Project specifications from client; aluminium, rivets, corrosion/weather resistant due to long exposure to elements

Risks: technical (design, manufacturing and performance) and project management (financial, etc.)

Potential cost: estimated to cost ~\$400

Technical constraints:

- Balanced
- Single anchoring point; security/lock
- Ease of accessibility for control box for maintenance

Milestones:

Work breakdown structure has been made

Audit 2

- looking to have design analysis done, some scale model/simulation through ANSYS
- rigorous justification to design methods

Audit 3

- full chassis complete
- full design/manufacturing manual complete

Notes:

- work breakdown structure has been made
- lot of time designated for refining the design
- 19/3/19 – “Each team member shall complete an initial design for review and presentation during PA1” – not complete yet

Questions:

How will the project be financed?

- Chris Browne \$200 of his own money

Thoughts about the design:

- Modularity
- 2 solar panels at the top, security aspect – lock/anchor
- Client has given general direction of design; but they are still in the design requirements analysis phase – they only received this last Thursday

Final function of product:

Aluminium chassis – box of componentry for Will's honors project

- Client has an already existing basic chassis
- Team must add modularity and add full rigorous design
- They must create the chassis, and commercialise the manufacturing process

What type of water is it designed for?

Riverways, low energy waterways ie. sheltered water space such as lakes

Strong tides/flood events are out of the scope of the project

What manufacturing techniques?

- Solution that could be implanted at a very low cost
- Fully riveted design, preferably no welding
- Not machined; sections cut and segmented

Has he given the specifications of the internal components?

No, some non disclosure has been signed, although black box/control box dimensions and weight has been given

Does the team have experience with ANSYS/modelling?

Yes – all team members have experience with the program

Any plans for user testing?

Final test on a date in July; on project timeline they have a section for testing and validation; computer simulations and physical testing

Recommendations:

- Value of project is clearly identified
- Need to identify what you're measuring your value against
- Timeline is slightly ambitious
- Clear breakdown/understanding of what they need to do

VR – Magellan Telescope project

Project outline/goals

A model already exists. This project will likely not be completed by the group, and will be passed onto a following group. Improving performance of the model while still making it visually realistic – essentially improving the user experience in the VR.

Existing resources

- documentation from previous groups that have experimented with these processes before
- partial model
- computers, VR headset for testing/developing the model are at Stromlo

Notes:

- risks are not very clearly defined
- goals are not clear at this stage, output/deliverables are very general at this stage
- project is more about progress, although with no clear finish

Do you have any say in what you can do for the project?

Controls, and optimisation

Does it require background knowledge?

Most coding will be done by Warrick (client?). Members have experience with Unity/Solidworks.

360- degree web conference camera

Feedback:

If there is an already existing solution; goal is to reduce overhead cost/resources needed

Tutor feedback:

Main concern:

- physical deliverables
- Tech transfer; make sure to document everything from scoping to prototyping – documentation of every detail is crucial
- Coding in same language as open source code

Main value we are bringing: making 4 cameras into single input

Tutor notes:

- Make constructive feedback for other teams
- Use feedback from other teams and turn these into action items
- Week 6