

Project - Grading & Guidelines (2022-2)

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1 Project Idea Submission

We would like you to submit the following details of your final project. This will carry **3 marks**, but not submitting this will make you **lose 5 marks** from your final submission as a penalty (assuming that you are going to submit a final project). For audit students, there is no penalty. This proposal should be no more than 2 pages long; one page is also fine.

1.1 Requirements

1. **Title:** Rough title (this can be changed a little later).
2. **Participants:** Names/roll numbers of the team members.
3. **Abstract:** A one-paragraph outline of the project, why it is important and what you are going to do.
4. **Outline:** A brief outline of the things that you will do.
5. **Deliverables:** What will you be finally submitting? What is the outcome of the work?
6. **Timeline:** When do you plan to do your work, and roughly in what order?
7. **Git Repository:** Link to your **git** repository hosting your project

1.2 Assessment Guidelines

The project evaluation will also have a continual assessment component, which is meant to track regular work and progress until the end of the project. For this, we would require the team members to create a **git** repository (*can be empty*), and share its link in the proposal. Commits that are meant to satisfy the deliverables of the project need to be pushed weekly/regularly. More details will be shared after the mid-sem.

For the final project, this is what I am going to expect, and this is how you will be assessed:

1. Once you start working on the project, you should upload bi-weekly status updates to moodle (*will be setup*). This is not meant to be a report that you are required to really spend time on and should come as a byproduct of your work. You could have a rough list of tasks where you check off the stuff you have done each week and submit this list along with commit logs

and basic stats like the number of lines of code added by each member. Each submission would fetch you **2 marks**.

2. We will fix a mutually convenient time for the presentations after the main end-semester exams (a week before the grade submission deadline).
3. Each team will present for 10 mins, followed by 5 min Q/A.
4. You will need to submit your material (code/report/video/whatever) about 2 days before the presentation for the TAs and me to go over briefly.
5. Ideally, you will write a short report about the work and submit code/data and any output (could be a video) for final assessment.
6. For team projects, I will expect a clear statement of the contributions of each member, ideally in the form of `git` commits for final assessment.

The general guideline is that you will use at least 3 of the following things you have learned from the course:

1. 3D visualization with `Mayavi` or `ParaView` (covered after mid-sem).
2. `Traits/TraitsUI` (covered after mid-sem).
3. Profiled/optimized code with `numpy`, `numba` or `comppyle`.
4. Automation with `automan`.
5. Parallel programming on multi-core CPUs or a GPGPU using `numba` or `comppyle`.
6. Using `mpi4py` with any HPC programming for simple distributed computing.

The work must clearly be original in its implementation and must require the equivalent of about **30 hours of work (per participant)**. Think of it as requiring 10 assignments worth of work. Obviously, **no copying will be tolerated!** Please pick a topic you are interested in working on. Some changes to the project are allowed after talking to the TA and instructors. We can also give you feedback early on when you submit the proposals.

By the way, if you spot something lacking in `mayavi`, `automan`, or `comppyle/numba` (or any other open source project) and would like to work on adding/fixing it as a part of your project, you are most welcome, provided that the amount of work you put in into this matches that mentioned above.

1.3 Grading Rubric

Requirements	Marks
Submission of first draft of project idea <i>(Feedback will be given during the midsem week. The final draft can be updated and uploaded accordingly)</i>	1 Mark (Due: 18/02/2023 23:59 IST)
Submission of final draft of project idea	2 Marks (Due: 26/02/2023 23:59 IST)
Bi-weekly updates	12 Marks <i>2 Marks per week</i> (Clock starts: 12/02/2023 00:00 IST)
Project presentation	15 Marks
Quality/quantity of work	15 Marks