Individual Project Induction

PROJ 300

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Project Manager

- In your final stage you will be taking on the challenge of an ***Individual Project***.

- Each Programme Module is worth 40 Credits:-

  - MEng/BEng PROJ300

- As such, it will make up **33%** **(1/3rd)** of your overall final-stage assessment.

- Put another way, it represents
  - **20%** of "**Current"** award classification (60:30:10)
    - Old classification - **23.3%** of BEng/BSc award classification (70:20:10) depending on start date.
  - **10%** of MEng award classification (40:30:20:10)

- It is therefore a **Very Important Module**!
- The academic year is **SHORTER** this year … term 2 finishes on Friday 2nd May 2025.
- **EASTER vacation 7th April – 31st April '25**

- The main sequence of events required this semester: Managed using **Teams**

  - Submit your **Initial Proposal**.
    - Basic outline of project (self / staff proposal)
    - Discuss with staff
    - Supervisor agreement (if not appointed)
  - Submit your **Final Proposal**.
    - Detailed description
    - Define staged aims and objectives
    - Define components, equipment and costing
  - Submit your **Gantt Chart**.
    - Timeline used to monitor progress

Project Ideas

- Some ideas listed on Teams
- Past projects on Showcase website.
- From time to time, **Industry-based** project ideas will be circulated via e-mail as well as being listed on the web-site under a link-person.
- Google – internet a good source of ideas
  - BUT don't copy as this would be classed as Plagiarism.
  - You must demonstrate your OWN work

- The style of project might be:-
  - **Hardware-based:**
    - analogue / digital or a combination
  - **Software-based**
    - Iphone app, simulation, control existing hardware, web page!!
  - **Hardware/Software-based** (most popular)
  - or even a **Research Thesis**
    - a substantial piece of *original* theoretical research.
    - Don’t be fooled into thinking that the latter is an easy option; or, indeed, that producing a Web Page is!

Project Supervisor

- The next step is to contact academic staff in order to talk through your ideas.
  - details of academic staff areas of interest on DLE
  - academic staff e-mail, phone and location details.
  - If you can commit an academic to become a supervisor, great!; if not, it will be the Projects Manager's job to allocate one during the two weeks following the October deadline

Project Supe

- Adrian **Ambroze**
- Shakil **Awan**
- Dena **Bazazian**
- Paul **Davey**
- Mohammed **Diab**
- Ian **Howard**
- Emmanuel **Ifeachor**
- David **Jenkins**
- Tamer **Kamel**
- Toby **Whitley**

Marcel Ambroze

Associate Professor of Digital Communications Engineering

Shakil Awan

Associate Professor in Electronics and Nanotechnology

Dena Bazazian

Lecturer in Robotics and Machine Vision

Paul Davey

Associate Professor in Electronics and Embedded Systems

Mohammed Diab

Lecturer in Applied Robotics

Ian Howard • 2nd

Associate professor in Computational Neuroscience

Emmanuel Ifeachor • 1st

Specialist in digital signal processing |

Plymouth, England, United Kingdom •

David Jenkins

Adjunct Professor at VIT

Plymouth

Toby Whitley

Lecturer in Analogue and Digital Electronics

Tamer Kamel

Lecturer in Power Electronics and Renewable Energy

Yu Yao · 3rd

Project Supervisor

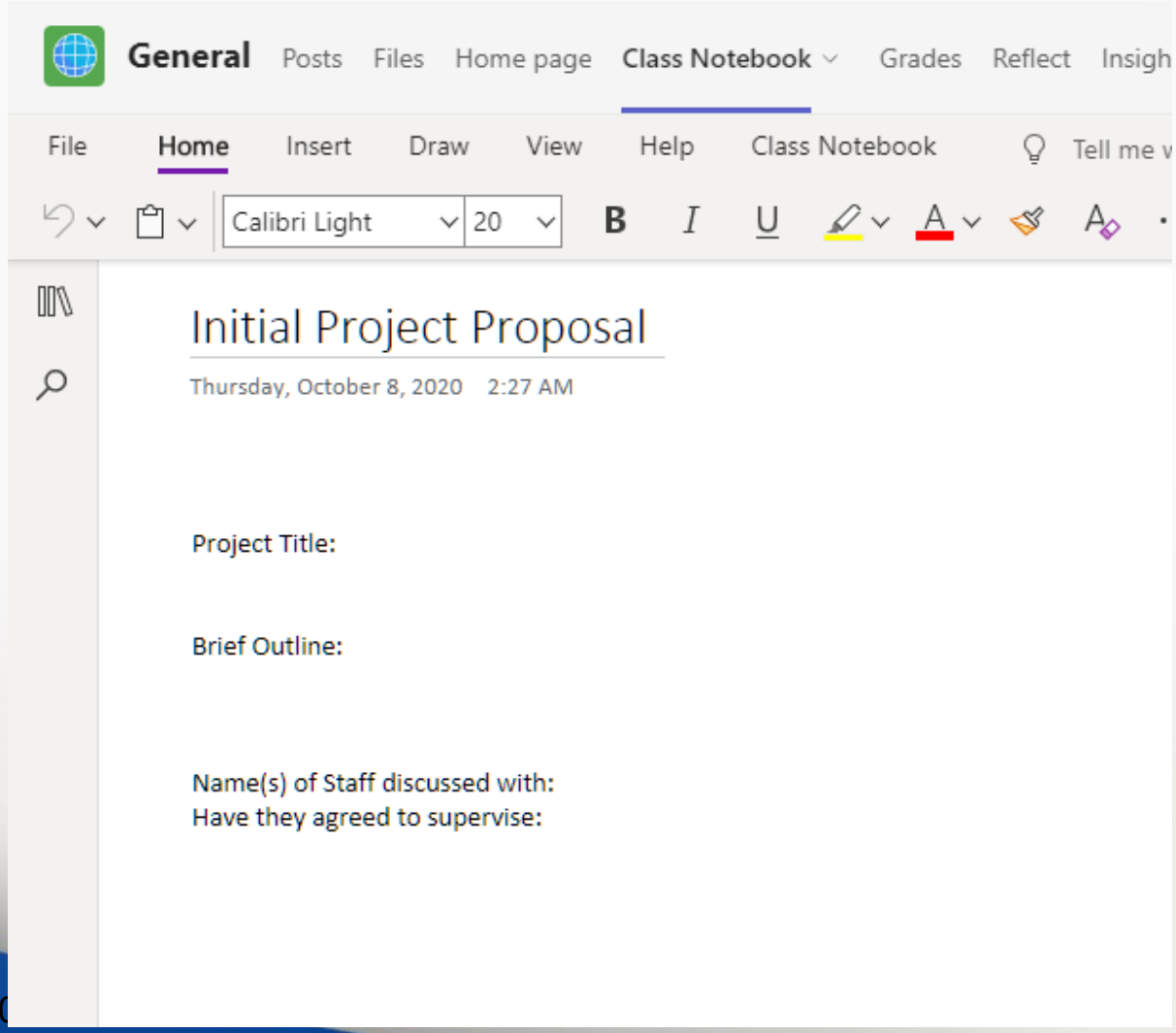
- Remember that academics can only take on so many supervisions so the sooner you begin your search the better!
- Supervisors' styles will vary considerably – there is no prescriptive method for interaction.
- Note that academics do not necessarily restrict themselves to supervision of projects in their specialist areas.

- The most crucial factor in sorting out the good from the bad is the Intellectual Challenge.
- A research-style project might have plenty of content but very little measurable level of intellectual input.
- Any one of you can create a web page/site; its capabilities and how it has been engineered will determine the quantifiable success of the project.

3. The Initial Proposal

- Your priority is to establish an idea for your project.
- The **onus is on you** to select a topic,after ratification of the supervisor, it is the **responsibility of the student**
  - to liaise regularly with his/her supervisor,
  - and to meet deadlines and other requirements.
- You have had ***3 months (2 years)*** to consider your ideas.

- Deadline for the **Initial Proposal**
- **5pm Friday 11th October 2024**



Final Proposal

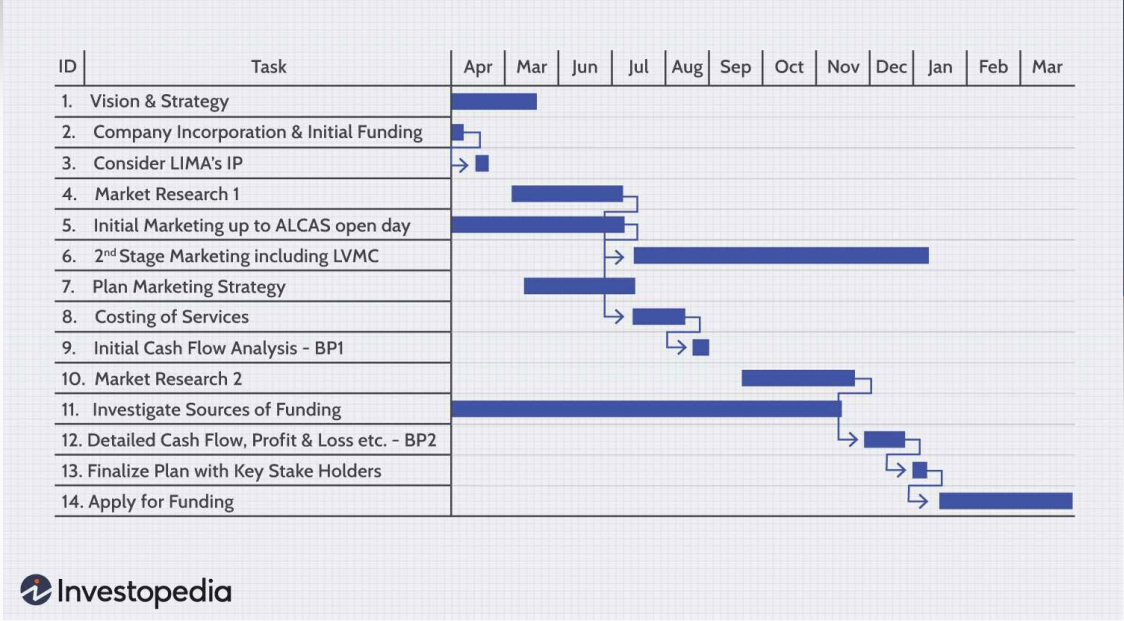
- The **Final Proposal** will be required to be uploaded by **5pm Friday 25th October 2024** .
- Identify key components to be used and an approximate cost (within £120 budget?)
- A basic business case for the project.
  - Identify market
    - What is it for
    - Why is it needed
    - What exists already
  - Costing (development and actual product**.)**

- **Project Title:** *Please limit to **Max** of 10 words*
- **Proposer:** *Self / Supervisor / Company*
- **Supervisor:** *If Known*
- **Objectives:** *Describe the objective in non-technical terms.*
  - *Ultimate goal of project*
- **Staged Deliverables:** ***(at least 4)*** : Tested: not just design and build
- *What constitutes a PASS (40%+)*
- *What constitutes a 2:2 Mark (50%+)*
- *What constitutes a 2:1 Mark (60%+)*
- *What constitutes a FIRST CLASS Mark (70%+)*
- **Description:** *Describe the project in non-technical terms. This should contain detailed actions of how your aims and objectives will be achieved. Text should be augmented with Block Diagrams.*
- **Resources:** *State assumptions about resources allocated to this project*
- *Equipment, Locations, Support & outside services, Manufacturing*
- **Schedule** *Review schedule milestones here*
- *When do you expect the staged deliverables to be complete*
- **Related Documents** *Data Sheets , Web Pages, Books*

Final Proposal

- List detailed list of **staged aims and objectives** (**minimum 4**) to aid both you and your supervisor determine your progress and influence your final grade.
  1. Base level achievement
  2. Next level of functionality meeting some / several aims and objectives
  3. Fully functional meeting most or all aims and objectives
  4. First Class project will expect to not just meet all aims and objectives but be backed throughout by good engineering decisions and thorough and rigorous testing regime.

Gantt Chart



- The **Gantt Chart** will also be required by **5pm Friday 25th October 2024**
- A Project Work-plan or Gantt Chart can be created using software such as Microsoft Project or even Microsoft Excel, but should not exceed a couple of pages of A4 (landscape)
- {see '*Resources*' for detailed help}.

Log Books

- **On-line logbook using OneNote logbook**
- a chronological record of the work carried out
  - Essential: Date & Sign Off each and every entry
  - **Note**: reliable laboratory records can be an important factor in any patent dispute
- information source that will be the basis of the project and interim reports
  - provide information such that the work is repeatable under the same conditions
  - provide full information such that others may repeat or verify the work
  - record of all results and observations

Risk Assessment

- After the Project Induction complete a Risk Assessment Form {on DLE'}.
  - This may not appear to have any real significance to some (generally, non-hardware) projects, but it is essential.
  - It focuses the mind on the real hazards that can be encountered in project activities –
  - It is certainly a must in industry, as part of the general Health & Safety portfolio.
- You **must** discuss the content with your supervisor.
- Place a copy of the **Risk Assessment Form** in your Log Book.

Progress Demonstration

- Deadline **4pm Wednesday 26th Feb 2025**
- Develop the project to the point to be able to demonstrate something tangible (working) to the supervisor.
- This demonstration will be assessed by the supervisor
  - **10% to the overall project mark.**
- The project will clearly not be the completed project. Full functionality is not expected, but it should ‘prove the principle’ either by simulation or some working elements of the final design.

Vivas

- Each student will undertake an oral presentation of their work with the aid of a poster to their supervisor and second supervisor.
- To be completed on the Tuesday and Wednesday
- **Deadline 5pm, Wednesday 31st April 2025**
- **Project Showcase Thurday 1st May, 2025.**

Assessment

- See Project Handbook. **TO BE UPDATED**
  - Execution 40% (Supervisor)
    - Project management is 10% of the Execution!!
    - Progress Demonstration is 10% of Execution!!
  - Vivas 30% (Supervisor + 2nd Marker)
  - Report 30% (Supervisor + 2nd Marker)

- Videos of projects to demonstrate progress
  - Online Showcase (mini showcase this year)
  - Very successful

Assessment adjustment

IET requested the following changes:

- 2nd Marker awards more marks (Execution mark)
- The following topics are included in the assessment
  - Management Techniques – project proposal, work plan
  - Health and Safety – Risk assessment
  - **Commercial Risk evaluation –**
  - Legal Requirements (can the customer use a quadcopter?)
  - Intellectual Property (what ip will you use / generate)
  - Environmental Impact (sustainability, recycling, end of life)
  - Ethical conduct (how does your project affect other people)
  - Social Context
  - Product Safety & Liability
  - Internationalisation – Global Market

Commercial Risks

- Economic Risk - Commercial viability: does the project make overall commercial sense (Financial Risk)
- **Input supply risks:** can raw materials or other inputs be obtained at the projected costs
- Revenue risks: will its operating revenues be as projected (Competition or comfort Risk) The economy is constantly changing as the markets fluctuate. ...
- **Construction risks**: can the project be built on time and on budget
- Operating risks: is the project capable of operating at the projected performance level and cost
- Compliance Risk. ...Customer satisfaction
- Reputation Risk. ... negative publicity
- Security and Fraud Risk. ...Data & cyber liability risks
- *Force majeure* risks: how can the project cope with *force majeure (COVID 20)*

Appendix

What makes a **good** project?

- Purpose & Relevance.
  - Is the project personally meaningful?
  - Does the project prompt intrigue in the learner enough to encourage the significant investment of time, effort and creativity to drive forward and develop the project?
- Complexity
  - Something challenging yet achievable.
    - Challenging for one person may be impossible to another!

What makes a **great** project?

- Time.
  - Sufficient time must be provided to think about , plan, execute, debug, digress or deviate.
- Setting clear objectives
  - Identify staged aims / goals and agree them with your supervisor.
  - Think how you are going to **demonstrate** your project from day one.
  - Consider the engineering decisions you will need to make and document them.

What makes a **successful** project?

- Time
- Consistent Hard Work
  - The difference between a pass and a 1st is normally consistency.
- Utilise ALL available resources.
- **Testing**
- Frequent communications with your supervisor
- Good documentation – log books

Projects Manager – **Paul Davey**

- supported by the Projects Committee (mainly Programme Managers), has overall responsibility for the management of the project modules and will assist in matching students to supervisors together with provision of advice on general aspects of projects.
- **All specific matters relating to an allocated project should, in the first instance, be referred to the supervisor.**
- If you have a problem that **can't** be resolved in this way please bring to my attention.