ELEC6211

Project Preparation

Part II: The Project Plan

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The Project Plan

5 page document

1 page:

- Aims/research question
- Objectives

1 page:

- Proposed research methodology summary
- Proposed analysis methodology summary

1 page:

- Research plan Gantt chart (or similar)

1 page:

- Ethical statement

1 page:

- Legal and commercial aspects

The Project Plan

Start with a title ☺. Does not have to be the final one. And don’t forget your name

Aims/research question and Objectives

Lay out the main aim(s) of the project, sometimes referred to as the research question. Make sure that this is relatively realistic and achievable and explained in sufficient detail as to be unambiguous.

Present the objectives of your work. These would, in principle, form the basis of the work activities that you intend to carry out. The objectives should also inform the plan of work presented in chart form in the plan.

Objectives should be outcome based. For example: “to demonstrate the operation of a digital synthesiser with a output level of 25 Volts”, should really be “to demonstrate an output level of 25 Volts”. The first part is likely to be the aim of the work or to be a separate objective in a series.

Proposed methodology

This is a simple summary of the practical research methods and analytical methods you are proposing to use or investigate.

There is no requirement for detail here. This should be a rough outline only, demonstrating that you have a good idea of what methods and techniques are suitable/ideal/possible, with a brief discussion of why you think this is so.

This is a basic form of an experimental or research design framework and will allow you to discuss these matters with your supervisor.

Proposed plan chart

Using a Gantt chart or any similar form, lay out a rough idea of the plan of work you intend to follow in your project.

Focus on demonstrating the relative lengths of each aspect and any inter-relationship between activities.

Highlight objective end points or milestones and any follow on aspects which may arise.

Also use some method to indicate optional or “it would be nice” aspects to the work.

Obviously at this stage, this will be a rough guess compared to when you are actually doing the project. Keep this in mind when defining the activities, laying out realistic times and endpoints. Provide more detail for the beginning three-four weeks as well.

Ethical statement

The application of technology always has ethical implications. They may be generic and difficult to define.

For those projects with direct ethical issues, such as those that involve human data, this statement is straightforward. It should lay out those issues, the controls which you are including in your methodology and how you are going to make your application for ethical approval from the University.

For those projects and the remaining ones, the ethical statement should cover the ethical implications of the work presented in your project in the area of application which you have identified. Summarise those implications, any aspects which would have an effect on the development of the project work in the future and any effects the project work would have for ethics in related areas.

This should be informed by discussion with your supervisor, particularly if you have to make an ethical approval for your project.

Legal and commercial statement

This should be a short description of the commercial potential of the research project you are undertaking, what commercial influences there are likely to be and what legal aspects and/or frameworks are likely to apply.

It should focus on the likely endpoint of the research rather than the specific endpoint of your project. However, it may be that the project has an actual demonstrable output, which would make this an easier topic to write about.

This again is only supposed to be a summary discussion. You should focus on writing a clear and easy to follow statement but there is no need to have an indepth investigation. This should be informed by your ongoing discussions with your supervisor.

Project Planning aspects:
Ethics
Measurables
Risk management

What is ethics?

- Moral principles that govern a person's behaviour or the conducting of an activity:
- the principles and rules of conduct governing an individual or a group
- a belief that something is very important

Ethics

Resources:

Royal Academy of Engineering:

http://www.raeng.org.uk/policy/engineering-ethics/ethics

Statement of ethical principles

1. Accuracy and rigour

Professional engineers and technicians have a duty to ensure that they acquire and use wisely and faithfully the knowledge that is relevant to the engineering skills needed in their work in the service of others. They should:

- always act with care and competence
- perform services only in areas of current competence
- keep their knowledge and skills up to date and assist the development of engineering knowledge and skills in others
- not knowingly mislead or allow others to be misled about engineering matters
- present and review engineering evidence, theory and interpretation honestly, accurately and without bias
- identify and evaluate and, where possible, quantify risks

Statement of ethical principles

2. Honesty and integrity

Professional engineers and technicians should adopt the highest standards of professional conduct, openness, fairness and honesty. They should:

- be alert to the ways in which their work might affect others and duly respect the rights and reputations of other parties
- avoid deceptive acts, take steps to prevent corrupt practices or professional misconduct, and declare conflicts of interest
- reject bribery or improper influence
- act for each employer or client in a reliable and trustworthy manner

Statement of ethical principles

3. Respect for life, law and the public good

Professional engineers and technicians should give due weight to all relevant law, facts and published guidance, and the wider public interest. They should:

- ensure that all work is lawful and justified
- minimise and justify any adverse effect on society or on the natural environment for their own and succeeding generations
- take due account of the limited availability of natural and human resources
- hold paramount the health and safety of others
- act honourably, responsibly and lawfully and uphold the reputation, standing and dignity of the profession

Statement of ethical principles

4. Responsible leadership: listening and informing

Professional engineers and technicians should aspire to high standards of leadership in the exploitation and management of technology. They hold a privileged and trusted position in society, and are expected to demonstrate that they are seeking to serve wider society and to be sensitive to public concerns. They should:

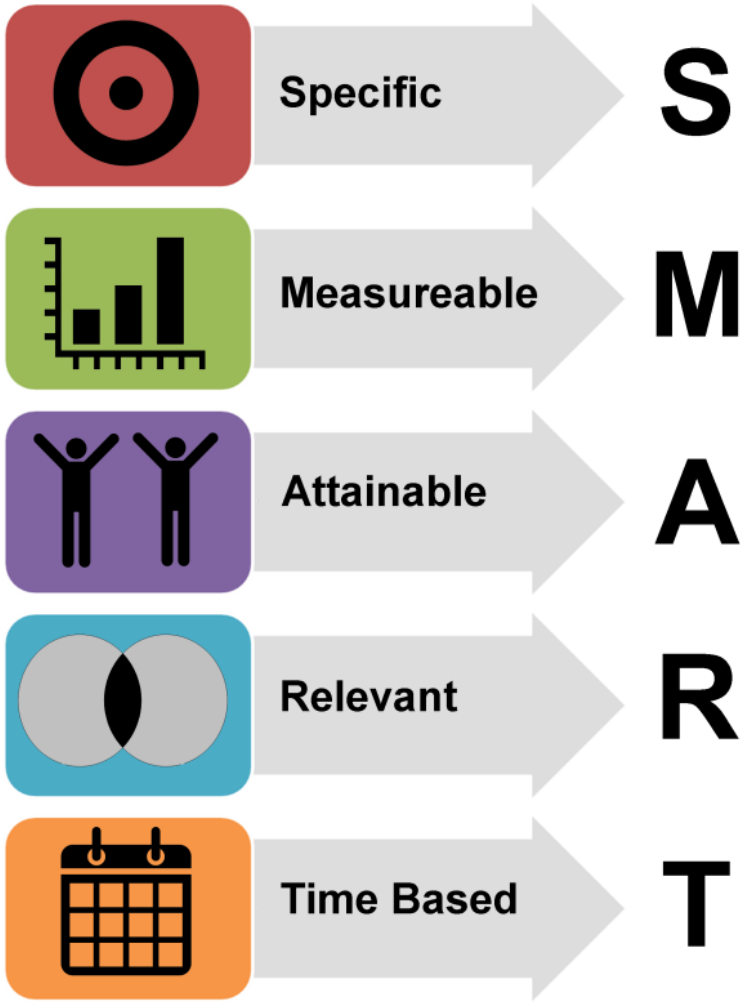
- be aware of the issues that engineering and technology raise for society, and listen to the aspirations and concerns of others
- actively promote public awareness and understanding of the impact and benefits of engineering achievements
- be objective and truthful in any statement made in their professional capacity

Measurables

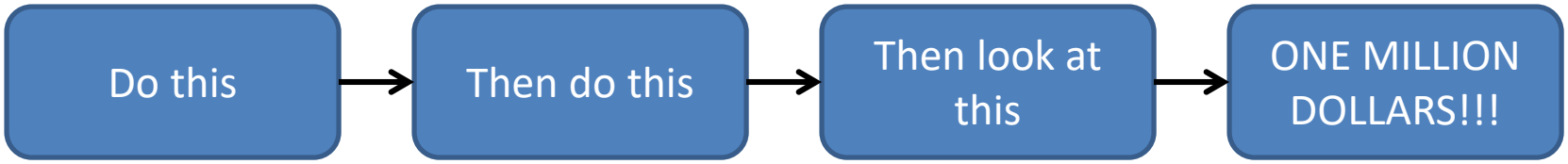
Risk management should be a integral part of the planning and operation of a project:

- Analyse
- Plan and implement response
- Track risks and dependent activities
- Develop mitigation strategy

If it goes wrong versus when it goes wrong



How students typically view a project

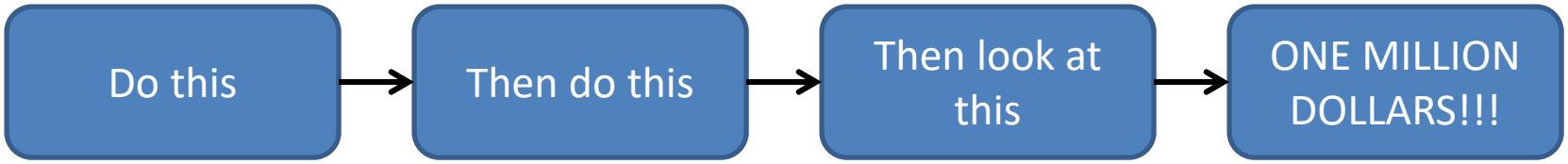


Decision point in risk management:

What do I do if something goes wrong?

Why is this wrong?

How students typically view a project



Decision point in risk management:

What do I do WHEN something goes wrong?

Risk Management

Risk management should be a integral part of the planning and operation of a project:

- Analyse
- Plan and implement response
- Track risks and dependent activities
- Develop mitigation strategy