

Automated Commentaries for Simulated Soccer

Risk Analysis

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Risk Analysis

1.0 Introduction

Risk is 'the perceived extent of possible loss'. Risk analysis is necessary to identify threats facing the project and determining how to cope with such eventualities.

Threats may be:

- **Human** - from individuals or organisations (university), illness, death, etc.
- **Operational** - from disruption to university network and operations, loss of access to essential assets, failures in distribution, etc.
- **Procedural** - from failures of accountability, internal systems and controls, organisation, fraud, etc.
- **Project** - risks of cost over-runs, jobs taking too long, insufficient product or service quality, etc.
- **Technical** - from advances in technology, technical failure, etc.
- **Natural** - threats from weather, natural disaster, accident, disease, etc.
- **Others**

Risk management is important because:

- More than 52% of IT projects overrun schedules (and budgets)
- More than 31% are cancelled
- Less than 17% are on time and on budget

One way of calculating risk is as:

$$\text{Risk} = \text{probability of event} \times \text{cost of event}$$

Doing this allows you to compare risks objectively. However as there is no cost associated with the project we will identify the impact the event will cause on the project.

2.0 Risk Strategy

The strategy that we are going to follow in order to identify the potential risks for our project is going to be based on a proactive risk strategy. A proactive strategy begins before technical work is initiated. Potential risks are identified, their probability and impact are assessed, and they are prioritised by importance.

The primary objective is to avoid risk, but because not all risks can be avoided, the team works to develop a contingency plan that will enable it to respond in a controlled and effective manner. Risks can be identified throughout the project and should be dealt with appropriately.

The following risk management process model (Figure 1) will help us identify and plan for, possible problems:

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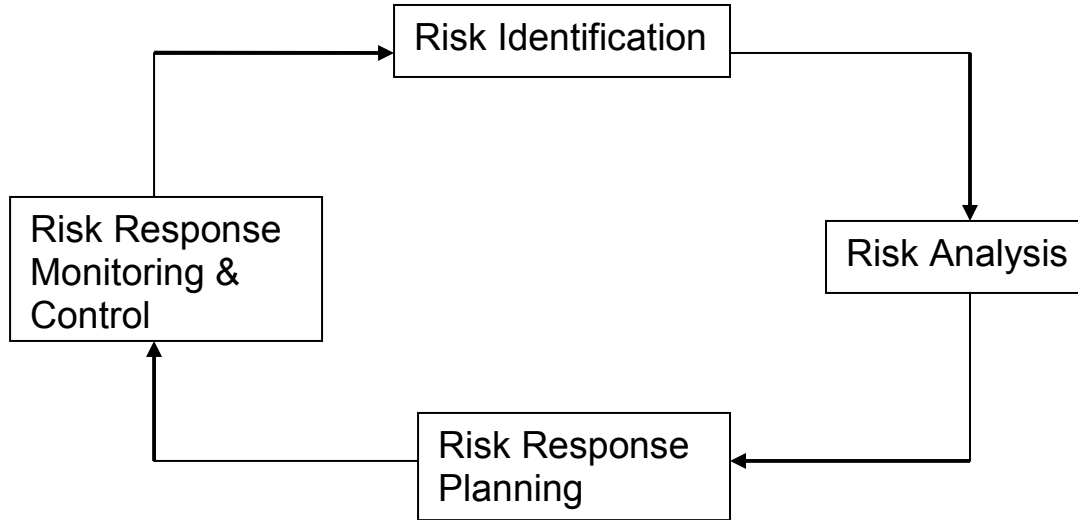


Figure 1

3.0 Using the Model

3.1 Risk Identification

Risk Identification is a systematic attempt to specify threats to the project plan. By identifying them, we can take the first step into avoiding them when possible and controlling them as necessary. In specifying the risks, we also need to identify what area they will be in, their projected probability of occurrence and their effect on the project. (see Figure 2)

Importance	Risk	Category	Probability	Impact
Most ↑ ↓ Least	Deadline not met	Management	0.1	Catastrophic
	Documents/code loss	Technical	0.05	Catastrophic
	Class not integrating	Design	0.1	Critical
	Group inexperience	Personnel	0.2	Critical
	Commentaries inaccurate	Design	0.2	Serious
	GUI design not fulfilling the requirements	Design	0.6	Minimal to Serious (depends on requirements)
	Team member becomes unavailable/ill	Personnel	0.8	Potentially serious
	Supervisor becomes unavailable/ill	Personnel	0.8	Potentially serious

Figure 2

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3.2 Risk Analysis

After pointing out the major risks in the project, the next step will be to describe each of them in a more detailed manner:

3.2.1 Deadline not met

If the deadline is not met then the team will fail this module which is obviously the most undesirable risk. It has a very low probability of occurring because even if the project is not completed we will still remember to hand in everything we have achieved.

3.2.2 Documents/code loss

Losing data on computers is a risk that is always present. Sometimes it cannot be avoided (power cuts) but we can limit the damage from losing data by making sure that all work is backed up on Raptor, as well as making sure there are backups elsewhere, such as on CDs or memory sticks.

3.2.3 Class not integrating

This would mean major changes would be needed to change the design.

3.2.4 Group inexperience

The group's inexperience to simulation building will be a risk to the projects quality.

3.2.5 Commentaries inaccurate

The outputting of accurate commentary is very important however, if the case cannot be implemented then basic commentary should be present to achieve minimum marks.

3.2.6 GUI design not fulfilling the requirements

The GUI design is not an essential part to the project but is more of an advanced feature displaying the commentary spoken. However, it is likely that not all of our ideas are implemented because the scope of this project is larger than the time we have for it.

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3.2.7 Team member becomes unavailable/ill

If a team member becomes unavailable due to illness or some other reason then there will be an immense strain on the rest of the group. Since there are only four members in this team if one of us becomes unavailable then the amount of work the remaining two would have to produce is increased by 35%.

3.2.8 Supervisor becomes unavailable/ill

If the supervisor becomes unavailable due to illness or some other reason then there will be an immense strain on the project and alternative plans will need to be in place to cope with the unlikely event.

3.3 Risk Response Planning

Once the risks have been understood, we can create a risk response e.g. avoidance, transference, mitigation, acceptance and monitor.

3.3.1 Deadline not met

Strict deadlines should be made and met for each iteration. Our project planning should drive us forward but not be unrealistic. If this were to occur, we should contact our project supervisor for advice.

3.3.2 Documents/code loss

Documents and code should be backed up every time a change is made to avoid setbacks, the backup store will be on Raptor, as well as making sure there are backups elsewhere, such as on CDs or memory sticks.. If this risk were to occur, we should re-plan the rest of our time to accommodate the loss. If it were to occur close to the deadline the group should immediately apply for an extension and meet with project supervisor.

3.3.3 Class not integrating

Designs should be checked by all members of the group. If this risk were to occur, detailed checks on the code and subsequent design changes should be made and documented.

3.3.4 Group inexperience

This is a risk that the group does not gain enough experience during the project to build an effective learning tool. Proper background reading and research as well as a certain degree of practice should ensure the group gains the appropriate knowledge.

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3.3.5 Commentaries inaccurate

Well thought out designs and a thorough understanding of the commentary needed, should help the group avoid this risk. Testing should ensure that accurate commentary is being outputted.

3.3.6 GUI design not fulfilling the requirements

Thorough reading into GUI design in Swing should give the group a better idea of how implement the commentary display window. Careful quality control should ensure requirements at each iteration are met. Any requirements not met should be documented as to why they have not been completed.

3.3.7 Team member becomes unavailable/ill

There is nothing that can be done to prevent this from risk from actually happening but if all the work produced is shared then this removes any problems of not being able to get hold of work. Risk can also be minimised by ensuring that everyone understands the role of each class through a structured design process involving every member.

3.3.8 Supervisor becomes unavailable/ill

Again, there is nothing that can be done to ensure this risk does not occur, but there can be plans in place to cope with the unlikely event. Meeting with the module convener at the earliest possible time to discuss a replacement is the only option depending on the seriousness of the matter.

3.4 Risk Response Monitoring & Control

In order to minimise the possibility of the identified risks in this project, the group must monitor the potential risks throughout the project and address any problems that may invoke those risks. Quality control, designs and planning should insure the main risks have reduced probability. Any new possible risks should be identified and planned for.