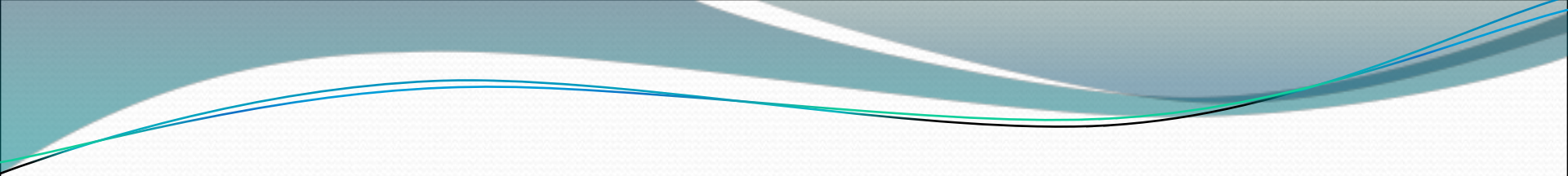# Risk Management

- You need to actually talk about and plan for what could go wrong.
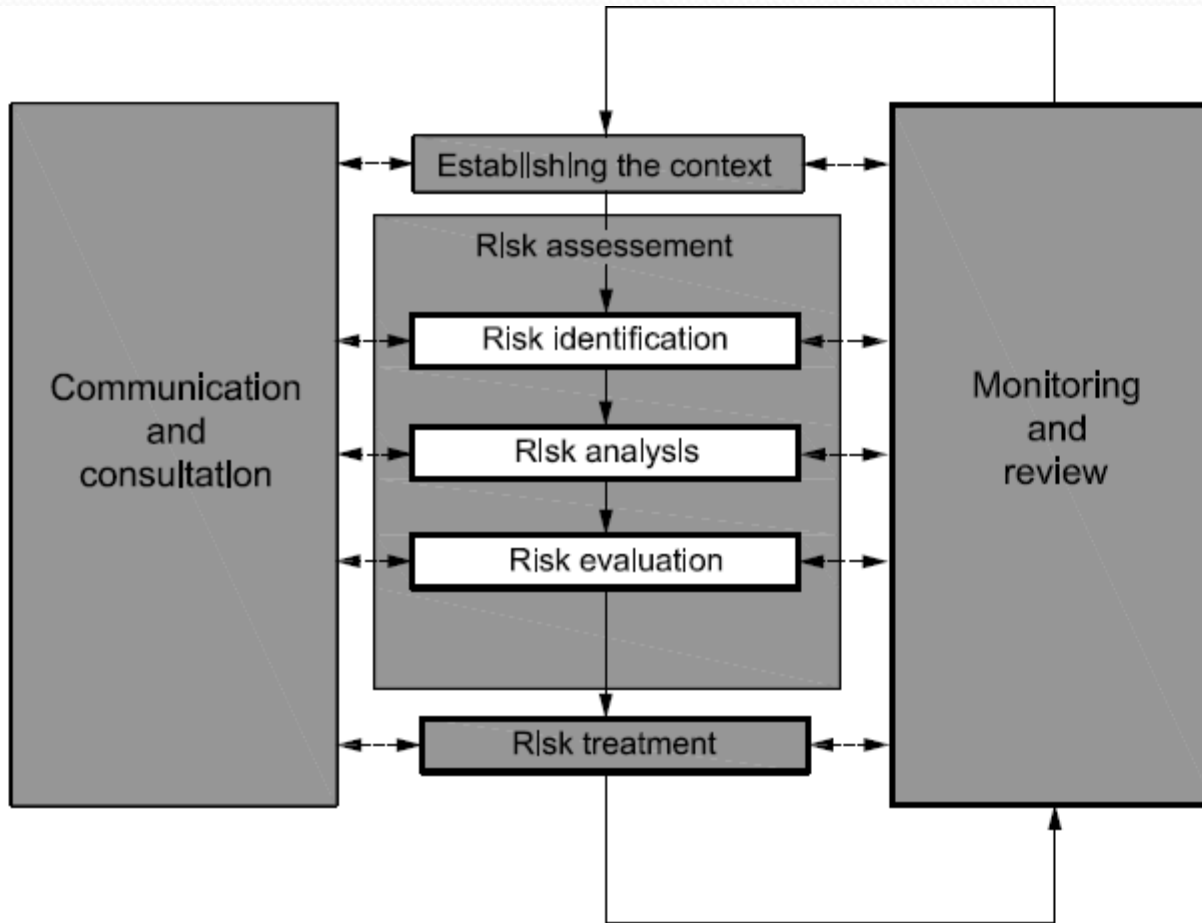
Risk

What is the worst think that can happen during undertaking a project or once the application is in use?

- Could you prevent this?
- Could up minimise this?
- How would you cope in the worst case?
- Contingency Plan.

Example

Risk Management Process

Establishing the context

Risk assessement

Risk identification

Risk analysis

Risk evaluation

Risk treatment

Communication and consultation

Monitoring and review

Risk Assessment

Risk Identification

- Identify sources of risk, areas of impacts, events and their causes and potential consequences
  - Include risks outside the control of the organisation
- Create a list of risks that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives
  - Include risks associated with not pursuing an opportunity

Risk Assessment

Risk Analysis

- Develop an understanding of the risk
  - considering the causes and sources of risk
  - their positive and negative consequences,
  - the likelihood (probability) that those consequences can occur.
- Determine level of risk consistent with risk criteria
  - Consider interdependencies of risks & sources
  - Understand confidence in determining risk
- Assessment may be qualitative or quantitative
  - Qualitative – e.g. high, medium or low for consequences and probability
  - Semi –quantitative – numerical rating of consequences and probability that are combined using an agreed formula
  - Quantitative – use practical values for consequences and their probabilities based on context.

Risk Assessment

Risk Evaluation

- Decide which risks need treatment and the priority for implementing the treatment
- Ethical, legal, financial and other considerations, including perceptions of risk, are also inputs to the decision.
- Decisions may include:
  - whether a risk needs treatment;
  - priorities for treatment;
  - whether an activity should be undertaken;
  - which of a number of paths should be followed.

Risk Treatment

Risk treatment involves selecting one or more options for modifying risks, and implementing those options. May include:

- avoiding the risk by not to starting/continuing with the activity that gives rise to the risk;

- removing the risk source;

- changing the likelihood or consequences;

- sharing the risk with another party or parties (including contracts and risk financing)

Risk Treatment

- Involves balancing the costs and efforts of implementation against the benefits derived
- Needs to consider legal, regulatory, and other requirements
  - E.g. social responsibility, environmental protection
- Needs to consider the values and perceptions of stakeholders and the most appropriate ways to communicate with them
- Treatment plan should clearly identify the priority order in which individual risk treatments should be implemented

Risk planning

- Develop strategies to manage risks
  - Avoidance strategies
  - Minimisation strategies
  - Contingency plans
- Consider actions to minimize disruption
- Information to collect whilst monitoring project to anticipate problems

Risk	Likelihood	Impact	Strategy to minimize disruption
● The time required to develop a module is underestimated. (1)	Medium	Moderate	
● Required training for team is not available (2)	High	Small	
● Key staff ill or unavailable at critical times (3)	High	Large	
● Team members using different versions of programming language.(4)	Medium	Large	
● Lose of Data (5)	Medium	Large	

Risk Map

		Likelihood of occurrence		
		High	Medium	Low
Potential scale of impact	Large	(3)	(4) (5)	
	Moderate		(1)	
	Small	(2)		