Week 11 Tutorial

Goals

1. Identification of potential project risks for all stages of development.
2. Initial categorisation of risks' probability and potential impact.
3. Identification of initial draft non-functional requirements.

Assumptions

1. You understand the material from the week 9 and week 10 lectures.

Activities

Activity 1 (15 min.)	Individually read sections 1.1 and 2.1, as well as step 3 on page 9 and table 2-1 on page 10 of the *Software Risk Management: A Practical Guide* from the U.S. Department of Energy. Skim read appendices A and B from the same document.
Activity 2 (15 min.)	As a team, decide which of the risk areas from the SEI risk taxonomy are applicable to your project. Then decide which questions from the SEI risk taxonomy questionnaire are relevant to your project.
Activity 3 (10 min.)	Pair up with another team. Compare the risk areas both teams identified as being relevant. Did the other team identify different potential risk areas that, in hindsight, now seem relevant for your project?
Activity 4 (20 min.)	Perform an initial risk assessment for the project. (Nominate team members to be the facilitator, scribe and timekeeper.) 1. The facilitator should read one of the relevant risk questions. (Some questions may need to be rephrased [e.g. "1. a. Are the requirements likely to change during development of the project?"].) 2. Discuss the issues raised by the question and make a decision regarding potential risks that can be identified, based on your assumptions about what is likely to occur during the development stages of the project. Remember that this will be a large development project. 3. The facilitator should ask how likely the risk is to occur. Discuss the risk and its probability. You may use the five probability levels described in table 2-1. 4. The facilitator should ask what is the potential severity of the risk. Discuss the risk and its severity. You may use the five severity levels described in table 2-1. 5. The scribe should record risk details in the risk table in the requirements specification document. 6. The timekeeper should warn the team when they have spent 3 minutes discussing one risk, and ask for discussion to be completed when 5 minutes have been spent on one risk.
10 min.	**Break**
Activity 5 (10 min.)	Continue risk assessment for the project.
Activity 6 (5 min.)	Review the scope of the system and the actors who will interact with the system to try to get a high-level perspective of the system.

Activity 7 (25 min.)	Conduct a workshop process to identify non-functional requirements for each actor. (Nominate team members to be the facilitator, scribe and timekeeper.) 1. The facilitator should read out the description of the actor and highlight the use cases in which the actor interacts with the system. 2. Discuss the potential issues the actor may encounter with the system or any constraints the actor would need to enforce on the system. 3. The scribe should record the potential issues and constraints. 4. The facilitator should ask if this is part of the system's functional behaviour, its non-functional behaviour or outside the scope of the system. 5. The scribe should record the non-functional behaviour in section 8 of the requirements specification document. 6. The timekeeper should warn the team when they have spent 2 minutes discussing one issue, and ask for discussion to be completed when 4 minutes have been spent on one issue. Consider the intended overall behaviour of the system. Identify any constraints / non-functional requirements that are related to the system's behaviour, and which may not be directly related to specific actors. Record these in the requirements specification document.

Required Outcome

You have identified an initial set of potential risks for the project.

You have identified an initial set of potential non-functional requirements for the project.

Further Work

As a team, based on your understanding of the project, continue identifying potential risks. For each risk give it an initial probability rating. For all the risks you have identified, rank their severity in terms of the impact the risk could have on the project schedule and budget. You may use the five severity levels described in table 2-1.

Create a risk mitigation plan for all risks that fall into the intolerable and high-risk areas of the risk matrix in table 2-1. The mitigation plan can be an informal paragraph description for each risk indicating how the risk will be monitored and what actions can be taken to try to minimise the likelihood of the risk occurring. You may find other sections of the *Software Risk Management: A Practical Guide* useful in developing your risk mitigation plan.

Review and expand on the non-functional requirements you identified in this tutorial. Ensure that you provide a measurable and testable criterion in the description of each non-functional requirement.

Complete a draft of the entire requirements specification document to bring to your next tutorial.