

## Concept Document

On a typical project we might start by creating a high-level requirements document or a product document that describes (at a high level) the features and requirements for the system being developed.

This years 2910 project is a bit different. We know all the requirements in detail, as these are specified in the Missions descriptions for each challenge.

So instead of cutting and pasting all this information into a requirements document, we are going to take a different approach. What I want you to do is to learn and understand the requirements as they are stated, and devise ideas approaches to meeting these requirements.

Note: when I say "requirement", I am talking specifically of the rules for the specific missions and the rules for the project.

For each mission listed in the documents in "The Project" section of WebCT, you will devise 2 or 3 approaches to successfully completing the mission. An example might be:

<b>Mission:</b>	<b>Activate The Space Elevator</b>
<b>Objective:</b>	<b>Press the elevator wheel/arm assembly so as to release the elevator.</b>
<b>Approach:</b>	<b>We will build a catapult, load it with an 8x8x8 lego brick, and launch it at the wheel/arm assembly repetitively until the arm releases the elevator.</b>
<b>Requirements:</b>	<b>Our approach requires the construction of a large catapult arm. It will be powered by 3 lego elastic bands. It will be activated by pressing the start button, and having a countdown timer. When the timer reaches zero a motor will turn and release the arm.</b> <b>The ammunition is loaded manually.</b>
<b>Reasoning:</b>	<b>This approach is very fast as the robot never leaves the base. Jimmy has military training in projectile estimation, and knows how to make the catapult super accurate.</b>

Of course this is a hypothetical example. Yours will be much more realistic.

I hope you can see that to come up with realistic approaches requires a lot of thinking and research and investigation. This is required for each and every mission that you are going to attempt! Furthermore, you need to get through this by the end of the week, as next week you will be planning the project, based on the strategies that you devise this week (note: you can change your strategies ... the idea this week is to understand the requirements and consider \_possible\_ approaches). Some projects development people call this a "feasibility study".

Of course there is more to winning the competition than simply performing missions. You are unlikely to complete all the missions within the time limit, so you need to HAVE A STRATEGY!! Which missions will you attempt? Which will you ignore? What order do you think you might do them in? By thinking these questions through you will (hopefully) come up with a WINNING STRATGY, which you also need to document in the concept document.

I was originally going to provide a template for this document - but I have changed my mind. Instead I want you to devise a professional looking format for your document (I think you have all had the Comms course).

What I will suggest is that your document should, minimally, include the following:

1. Title Page, with project and team information
2. Summary / Statement of Project Goal
3. High-level overview of your strategy
4. Short discussion of risks - what don't you know, what could kill your strategy?
5. Short discussion of assumptions that you are making.
6. List/discussion of approaches to solve missions

**Deliverable 1: Concept Document**

**Due:** Friday April 25, 2008, 5:30pm

**How:** Submit to your Team Folder in COMP 2910 Sharein

*Note: please use the COMP 2910 Sharein, even if you are in ACIT.*

*Another note: post questions to WebCT Proj Mgmt Forum if this is in any way unclear.*