

## **Session 3 – Project Development and Management (4 Hours)**

### **Project Management (90 minutes)**

Given the short amount of time allotted to this Block, students must ensure that they do not only have a good conceptual starting point to their projects but they must also plan the execution carefully, ensuring that they source any materials and tools ahead of time and keep their progress on schedule.

It is important to define early on what are the core elements of the design concept and allow for 2 or 3 different implementations of those elements in varying levels of complexity. In other words, it is important to have a plan B and sometimes C for implementing an idea without losing the intent and meaning of the project.

While it is common for the original idea to be changed in the first stages of planning, it is not recommended to do so late in the project. The original idea may be replaced by another of the concepts conceived in the brainstorming sessions, but this should not be done after the second week of the project, as it is likely that the project will not be done on time if this is the case.

### **Time Management**

Perhaps the most important aspect of project management when it comes to short projects such as this, it is important that students have a clear plan ahead as well as clearly defined “milestones”, which will allow them to keep on track throughout the project. A project schedule must then be created individually for each project, making sure to build in checkpoints or “milestones”.

There are several techniques for time management strategies. It is recommended that students research these (and other) techniques independently and select the one they feel applies to their project and personal approach:

- Demand- vs supply-side time management
- Serial vs parallel development
- Spiral development
- Bottom-up vs top-down debugging
- Hierarchy, modularity
- Mythical Man-Month

*The following FabAcademy video (1h) is also recommended:*  
<https://vimeo.com/118241439>

### **Budget Management**

Another important element to consider when planning a project is the budget constraint, for these project, we are setting a limit of \$50 (US). This includes the cost of all consumables but excludes things like power, machine depreciation etc. The online FabLab inventory includes the up-to-date cost of all consumables available in the lab, which is a helpful tool when planning your budget:

<http://bit.ly/1q5hvh1>

Together with a simple spreadsheet application this resource will allow you to create a clear budget plan for your project.

### **Design Review Process**

In order to ensure that all of the management strategies set for the project are followed during the development phase, we have built in weekly review process, which will include the checking of milestones (time management) and budget spend.

These Design Review sessions will also cover other aspects of the project as discussed below in Session 4, but it is important to meet with your instructor weekly in order to keep the project on track.

### **Tier 3 Project Brainstorming (150 minutes)**

At this point, students should have a basic understanding of what will be required from their Block 3 projects, and a brainstorming session is the ideal way to kickoff the work.

Students will be granted 30 minutes to brainstorm ideas for possible projects, using a large sheet of paper if available, to create a “Mind Map” of concepts. Mind maps are a type of spider graph, with a central question or idea being surrounded by branching concepts, words, sensations, images or drawings, as explained below (from wikipedia):

*“A **mind map** is a diagram used to visually organize information. A mind map is often created around a single concept, drawn as an image in the center of a blank landscape page, to which associated representations of ideas such as images, words and parts of words are added. Major ideas are connected directly to the central concept, and other ideas branch out from those.”*

[https://en.wikipedia.org/wiki/Mind\\_map](https://en.wikipedia.org/wiki/Mind_map)

Students should research the concept of mind map online for 5 minutes before starting in order to get a better grasp of the idea behind the exercise.

Once the individual mind maps have been created, go around the room in turns and ask each student to explain their work and single out possible projects they have identified using this technique. The floor is now open for fellow students and instructor(s) to comment on the ideas brought to light, ensuring to always note both positive and negative aspects of the various ideas suggested.

Once the round is complete, students should go back and review their mind map in light of the comments made by the group and attempt to hone and describe two concepts using whatever technique they see fit (writing, drawing, collage, photo, video, etc) as homework.

**Homework:** Once the round is complete, students should go back and review their mind map in light of the comments made by the group and attempt to hone and describe two concepts using whatever technique they see fit (writing, drawing, collage, photo, video, etc).