

# Project Planning • Design Reviews

## The Design Review

In industry, most projects require teams of people working together to complete the job. Communication is the key to ensuring a successful end to a project. One tool that is used to ensure successful communication within the team is called a design review. During the review, the team is able to talk about technical problems, resources needed, scheduling conflicts, due dates, etc. We will introduce three types of reviews: weekly, preliminary, and detail design reviews. The goal of the design review is to get feedback from all members of the team and ensure a successful and timely completion of the project.

### Weekly Reviews

Teams may need to meet daily in the early stages of a project, but once the work starts, the group will want to meet at least once a week to check on the progress of the project. These meetings allow all members of the team to see how the overall project is moving along. Additionally, they allow the project manager to look at the team's resources and reallocate them as needed. Documentation of progress should be kept and weekly goals should be set for individuals and for the team. The project manager and team leaders should monitor these goals. Assessment of these goals takes place at the weekly design reviews.

### Preliminary and Detail Design Reviews

There are two special types of reviews: preliminary and detail design reviews. The **Preliminary** Design Review allows the team to get initial feedback on the overall concept they will use to solve the problem. Interested reviewers are identified from the community. They are invited, the team presents initial concepts, and reviewers give feedback and offer suggestions. Depending on the complexity of the problem, it may be appropriate to give reviewers documents to review before they come to the preliminary design review so they are able to properly prepare. At the preliminary design review, presenters may have concept maps, plans, prototypes, and models that demonstrate possible solutions.

The **Detail** Design Review integrates feedback from the preliminary design review. If the group is working on a very large project, there may be multiple detail design reviews. This ensures that investors and other interested parties are getting feedback on the progress of the project in regularly scheduled intervals.

### Preparation for the Detail Design Review

Detail design reviews are milestones in projects. They require proper preparation.

#### **IT IS IMPORTANT THAT DESIGN TEAMS ARE READY FOR REVIEWERS.**

It is embarrassing to all concerned if team members haven't prepared properly. In the marketplace, detail design reviews are times when stakeholders make decisions about funding projects. The team should make a concerted effort to be properly prepared when they meet with reviewers. If appropriate, the team will want to include examples of the following documentation: a set of detail drawings, assembly drawings, a Gantt chart, models and prototypes, pictures of similar examples, and sample programming logic or control examples (sensors & logic).

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### External Design Reviews

The External Design Review is designed as an opportunity for outside reviewers to provide feedback and suggestions, so you can include those suggestions in the project.

During the External Design Review, outside parties are given the chance to see how your development is progressing, and offer their feedback and comments. These outside parties are usually major investors, or other groups who have an interest in the success of the project. There may be multiple external design reviews over the course of the project. The design review is a way to verify that the prototype is still in line with the original design criteria.

#### Preparing

The external design review is an opportunity for you to present the features of your project to an audience that is familiar with it. You should have accomplished a significant amount of work between when your proposal was accepted and your first external design review. Your project should have at least some of the functionality that you plan, and you should have a plan as to what aspects of the development you will work on next. Be prepared to show the robot working in some capacity, as well as to explain the design decisions that brought the group to this design, and your future plans for the project.

Throughout the review, your tone should be professional. It may help to assign to each team member one aspect of the development to speak about in front of the reviewers. Be sure to take suggestions and comments seriously, as they may in fact help you in your development.

#### After the Review

After the design review, work on the project continues as before in an effort to meet the deadline for the final demonstration. There is, however, one notable exception. The feedback and comments that you received from your review committee should be incorporated into your project, where practical. At least some of the reviewers will be present at your final demonstration of the project, and will most likely look to see that their suggestions were taken into account during the rest of the development.