Design Walkthrough

Yourdan (1979) introduced Structured Walkthroughs as an efficient and effective method for programmers to perform peer reviews of their code in order to obtain feedback and improve the quality. The goal of the walkthrough is to work through a section of code, step-by-step, to identify as many problems as possible. Yourdan established a simple, but important set of rules: Groups should be small (3-7 people), the author should select and prepare the material in advance, everyone must be on time and the review should be limited to at most one hour. Members of the group should be at the same level in the organization: this does not work well if the boss is evaluating the programmer at the same time everyone is evaluating his or her code. Like brainstorming, the focus is on maximizing the quantity of bugs within the given time period. Participants should focus on finding problems rather than discussing solutions. However, unlike brainstorming, participants need not defer judgement. Instead, they should quickly specify potential issues and move on. Constructive criticism is always more effective and comments should be as specific as possible: refer to the material at hand, not generalities.

Interestingly, it is not necessary to perform a walkthrough on all of the code. Programmers have their own personal styles and tend to make certain kinds of mistakes. Selecting a relatively small sample is usually sufficient to identify issues that occur elsewhere in the code. Another advantage of a code walkthrough is as a learning device: programmers learn to avoid certain types of bugs as well as pick up good programming practices from their peers.

Structured walkthroughs have been adapted to a variety of sequentially organized materials. I use them to analyze various forms of text documents, mostly research articles and design specifications, but it would also work for functional specifications, manuals and product reports. They are also effective for evaluating early design resources, including: design scenarios, storyboards, sequentially organized paper prototypes, video prototypes and Wizard-of-Oz prototypes. Our interest is a bit broader than just seeking ‘bugs’. As designers, we are trying to assess the design from different perspectives, according to relevant design principles and rules. One participant might focus on user issues, another on technical issues and another on marketing issues. Participants may also apply different sets of heuristics or design principles and may, of course, contribute additional issues of their own.

Scenarios are particularly suited to design walkthroughs, whether as a text design scenario, an illustrated storyboard or a full video prototype. Choose a presenter and a scribe to take notes. Select the material to be presented and decide how best to display it to the group. (If you want detailed written comments from each participant, give everyone their own copy. If you run a walkthrough on a video prototype, consider giving participants the storyboard as well.)

Roles:
- Presenter: identifies types of critique; presents material step by step
- Scribe: captures all comments from participants
- Participants: identify issues according to roles and/or design principles

Preparation: Choose a design focus, participant roles and design principles. Select material.

Procedure: Ensure that everyone can see the material. Presenter reminds participants which roles they play and what principles to focus on. For video prototypes, show the whole sequence first, without comments. Then proceed step by step, stopping at each interaction point. Identify specific problems first, then more general issues and finally offer suggestions. Do not criticize people, only designs. Do not discuss comments. The design team may briefly explain but avoid defending their design choices. Finally, the scribe rereads the list of design issues.

Remember: the goal is to identify issues, not correct them.
Exercise: Video Prototype Walkthrough

Normally, each group evaluates one other group’s video prototype, who evaluates theirs in return. At the end of the walkthrough, the scribe provides their group’s comments to the other group, who must then decide how to incorporate that feedback into their design. However, this year, we will conduct walkthroughs for all the projects as a whole class. The scribe should rotate for each group, as we go through the other group’s presentations.

Evaluated Project: 

Presenter: __________________ Scribe: __________________

Design issues:

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