

**Society of Actuaries  
Annual Meeting, 2002**

**Session 17-TS**

**Prototyping: A Science and an Art**

Handouts from

**Dave Snell, ASA CLU, ChFC, MAAA FLMI, MCP  
Technology Evangelist  
RGA Reinsurance Company**

## Prototyping - Ten Easy Lessons

by Dave Snell

Several years ago, I saw an interesting video segment on prototyping, that was not put out by Oracle, or even by Microsoft. The publisher was 20th Century Fox; and the video was titled ***Mrs. Doubtfire***.

Actually, the video involved a highly amusing story of the efforts of Robin Williams, playing the part of a father who desperately wanted to be with his children despite a court order that gave complete custody of them to his ex-wife (played by Sally Fields). However, it contained an excellent example of prototyping.

Robin decides to disguise himself as a British nanny, and to land the job of watching over his own children. In order to accomplish this feat, he visits his brother, a makeup artist, and they try out several combinations of wigs, masks, dresses and mannerisms, to create Mrs. Doubtfire, the perfect nanny. The audience gets to see the prototyping process as the brothers create a woman who is too old, too young, too sexy, too stern, and so forth, gradually homing in on the desired transformation.

Why use a non-IT (Information Technology) example to introduce the concept of prototyping? Because it's a real-world concept -- not just another jargon term from the high priests of programming paradigms. Prototyping is a practical approach to solving problems in real time, when you don't have complete specifications to start with. Neither Robin, nor his brother know exactly what the final look should be, in detail; but they do know what they are trying to accomplish

- (Lesson One - understand your goal, even if you don't see all the steps yet to achieve it).

They bring together their respective skills to make trial models, and then to refine them via immediate feedback.

- (Lesson Two - select team participants with an interest in attaining the goal, and the skills needed to build or to evaluate the models.)

Robin was the decision maker, who had to be satisfied with the final look.

- (Lesson Three - Make sure your team consists of a decision maker from the client area. This is not a project to provide self-actualization for programmers; it's to solve a problem for a paying client. However, the client representative must be able to say yes or no without a lot of time consuming sequential approvals. Expand your team, if necessary, to avoid being controlled by a loud, but minority viewpoint.)

Robin's brother was highly skilled in the tools necessary to disguise a person: mask making, hair coloring, skin taping ...

- (Lesson Four - the programmer must be competent enough to improvise. He or she can't be wheel spinning, learning the basics of programming on the project. Fast turnaround is mandatory to maintain client interest and enthusiasm, and to trigger the creative synergy that develops when the team gets to see a variation encompassing what they just talked about.)

The costume, and the look and feel, were tested on bus drivers, and passers-by, before the attempt to fool the ex-wife and the children.

- (Lesson Five - Field testing is critically helpful. If any of us were perfect marketers ourselves, we wouldn't be here in the home office.)

Several models were tried before the approval took place. Later, the look was refined with different apparel and techniques for changing conditions, such as the swimming pool.

- (Lesson Six - Park your ego at the beginning of the project. You may have to throw away a model that you feel is technically elegant, albeit not salable.)

Mrs. Doubtfire was hired on as a nanny; but 'she' had certain stated objectives to accomplish to keep her position, such as preparing the evening meal -- hilarious sequence.

- (Lesson Seven - Define your overall objectives, and then break them down into smaller, more readily obtainable and measurable objectives. Attach time deadlines to these benchmarks.)

The result was successful for weeks - long enough for Robin to win back the right to be with his children; but the charade eventually was discovered.

- (Lesson Eight - Recognize that you are taking shortcuts, and that this is not likely to have the same degree of maintainability as a full-blown DP project, where the client has signed off on specifications cast in silicon.)

This video was a comedy; and it was a commercial success. It's among the top selling videos ever sold.

- (Lesson Nine - Approach the prototyping process with an open mind, and have some fun in the process. Your enthusiasm is integral to the success of the project.)

The video ends with Mrs. Doubtfire taking on a lucrative career as a television personality.

- (Lesson Ten - Be forewarned. You could really enjoy this process. It offers the opportunity for more interaction with the front lines, for immediate feedback on how you are doing, and for expanding your creative process. You may not want to go back to being a more conventional client.

- 

Prototyping is not confined to the programming environment; and we can all relate to it – especially if we occasionally watch movies.