Enhancing design and documentation via filmmaking methods

Lynn Robert Carter
Carnegie Mellon University in Qatar
P.O. Box 24866
Doha, Qatar
+974 454-8623

LRCarter@cmu.edu

Isabelle Carbonell
Izaca Productions
10705 Lady Slipper Terrace
Rockville, MD 20852 USA
(301) 237-0212

Isabelle@izaca.com

Abstract

As software-intensives systems grow and spread around the world, product designers, implementers, deployers, and sustainers must be able to communicate more effectively with each other and the myriad of stakeholders critical to their success. Traditional written documentation methods tend to be system-centric, culturally neutral, focused on the "what" and the "how", and typically become unwieldy, long-winded and hard to process as the system size grows. Adding "why" content into the documentation can help, but more is needed and we are still left with documentation few will read. As a consequence, most developers never see clear requirements specifications flowing gracefully into architectures, into designs, and finally into beautifully crafted code. Filmmaking, used properly as a key part of the design of the documentation, can present the information in a more dynamic and interesting way that retains the "why" as well as its emotional content of the original source data. This workshop is designed to show educators a new way to think about the myriad roles of documentation and how new methods and tools coupled with proven methods from other domains can significantly enhance a student's educational experience.

1. Intended Audience

Undergraduate and graduate computer science and software engineering instructors who want to provide their students an additional set of data gathering, analysis, and communication tools for use across the system development life cycle as well as the whole product life.

2. Workshop Agenda

- Introduction and overview of documentation's various roles in large systems - *10 minutes*

- Leveraging proven methods from filmmaking and other domains (documentary films, websites, newspapers) - *10 minutes*

- The case for including "why" information - *20 minute activity*

- The case for context information - *20 minute activity including video clip*

- Critical tools - *30 minute discussion*

    - Stakeholder identification, understanding, and communication

    - Ethnographic documentary filmmaking methods in contextual inquiry

    - Organizing, structuring, linking, and presenting concepts for diverse stakeholders

3. Workshop Concept

We will provide documentation for a sample application and then show that the lack of "why" and other contextual information can lead to misunderstandings and potential problems. As systems grow and become more complex, it becomes harder and harder for stakeholders to quickly understand provided documentation and make effective use of it. The realization that different stakeholders have different needs is fundamental, and "one size" does not "fit all" is effectively equally fundamental. Even when we target just the developers, deducing the rationale for various design choices by looking at the final results of the design process without the design record is very difficult for most to do quickly.

Case 1: We will provide a short case study where "why" information for what appears to be needless overhead and complexity would likely change the reader's opinion about the design.

Case 2: Written and even spoken words may not communicate as effectively or compellingly as the same words where body language and other contextual cues can be seen. The second case will show the transcript of an interview and then a video of the same interview where body language tells us more than just the words.

Producing viable system solutions is more than just writing code. Our graduates will need to work in teams where their ability to properly gather information, interpret it, analyze it, and then compellingly express their conclusions will be critical. We believe that providing our graduates with a richer palette of data gathering, analysis and communication tools as well as skill development in their use will enhance their capabilities and improve the systems they produce.

4. Materials provided

- Paper and electronic copy of workshop notes
- Electronic copy of case study videos
- Bibliography of referenced works

5. Audio/Visual and Computer requirements

- A digital projector, screen,
- Flipcharts and pens, some way to mount pages on the wall, (or whiteboards with markers)

6. Space and Enrollment restrictions

- None