Contents

1 Individual Work on Technical Specification Document 09/12/2012

Beginning to complete the sections laid out on 09/11/2012. Difficult to find the right phrasing that is precise, concise, and unambiguous. Trying to use measurements that an electronic device makes instead of a human.

1.1 Overview and Scope

This section of the document is directed at describing the overall solution. The is no solution at this point. At the moment, I have broken down the overall system into components that do not lock the team into a specific implementation, but allows for the generation of technical specifications. The breakdown of the solution is as follows: the ProPANE system is composed of a *capture system* and *analysis system*. The capture system is responsible for collecting all of the information presented in a class. The analysis system will be the part that does all the image processing, display of images, selection of key frames, exportation features, and anything else that does not collect data. The capture system can then be broken down into a capture device and a communication device. The capture device gathers the information presented in a class and the communication device sends the data to the analysis system. These different components do not have to map to different pieces of hardware or software. They are merely to break the system down into discrete pieces to work with. This definitions need to be included in the specifications document.

1.1.1 List of Deliverables

Obviously, the system will have code and a users manual so that must be included, but other than that I cannot think of anything that must be delivered.

1.1.2 Requirements List

Using the section commands in LaTeXto organize the requirements list. It seems like a better way to organize the information than in a table. According to professor Knisely, contracts with clients (which this document essentially is) should be composed of full sentences and use the binding word "shall". I tried to follow the Northrop Grumman style of creating specifications.

2 Pair Work on Technical Specification Document 09/11/2012

With Colin Madigan
In preparation for the upcoming meeting with Drs Gabauer and Midkiff, starting work on a technical specifications document. This raised more questions than it answered. Decided to list as many specifications as possible by category for easy reference. This list will (theoretically) shrink as version 1 requirements differentiate themselves from version 2 requirements. Right now it seems like the best plan of attack is to attack a very specific problem. Focus on a single whiteboard.

2.1 Questions

- How much time can be allocated to setting up the system?
- How do we quantify the disturbance the system causes in the classroom?
- Is capturing images from multiple boards a large enough requirement to be in version 1?
- What are the legal requirements that have to be fulfilled (this MUST be a requirement)?

2.2 Creating Specs

Generated preliminary document for specifications. Created sections and subsections for organizing requirements. Requirements so far are just ideas. These will get hashed out in future communications with clients.

3 Individual Work on Background Document 09/04/2012

Begin working on background document. Focusing on problem statement. "Background Information" will probably involve a lot of work with Dr Midkiff since it will be about the requirements for special needs education. Postpone this section until after second meeting with client.

3.1 Problem Statement

Overall goal of this project is to collect all of the information written on a board during a class. This work could come from students or the professor. The reason for having a collection system is that students with disabilities might not be able to take notes for themselves and Bucknell is required to provide a solution. Right now, a student is assigned to be the "note taker" for a class and their notes are photocopied and given to disabled students (Am I allowed to use this phrasing?). Using an automatic system for note collection, Bucknell could guarantee that students with disabilities get the same education as those with out as required here. It would also relieve some of the pressure to find the "note taker" and make sure that person is in class every day.

3.2 Background Information

A simple Google search returns a few smart phone apps and systems (hardware + software) for collecting whiteboard data (not blackboard data). Will continue to fill in this section as the Research portion gets completed.
The terminology section will get completed along with more research. This will probably contain a lot of terms about special education.

3.3 Research

Tasked Griffin with looking into the specific applications and systems that are currently being used. Came across a Microsoft Research Labs paper (here) that seems to have the basics of what this project will have to accomplish. Tasked Colin with generating a more condensed version of this.

4 Initial Group Meeting 08/30/2012

With Griffin Dunn and Colin Madigan
Begin working on group tasks (team name, team logo, document template). Discussion of general specifications for design.

4.1 General Design Specs

Project goal is to capture information on boards during class. System must be portable (as specified during initial client meeting). This means that something like a SMART board is out of the question because it would have to be installed in every classroom and would drive up the cost. Need to meet with client again to hash out more specifications.
Questions for client:

1. What are the minimum requirements to say we successfully completed this project?
2. What features do you want the most?

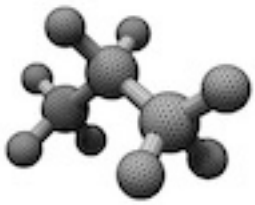
3. What features will be legally required to meet the special education laws?

4.2 Team Name

Trying acronyms using buzzwords: board, whiteboard, capture, system, portable, etc. Colin came up with Professional Portable Automatic Note Extraction (ProPANE). Agree to adopt as name. Move on to team logo.

4.3 Team Logo

Have to design a logo to fit the name ProPANE. First idea is to use the molecular structure of propane as a base design. Google images returns:



To become the first logo for BU ProPANE.

4.4 Document Template

Decide to use LaTeXas the default formatter for all formal documents. Decided on LaTeXbecause it does the formatting and we want to focus on getting information on paper rather than formatting.

The default template will start with a title page. The title page will include the title of the document as well as the names of the authors, the date it was created, and a summary of the contents of the document. The body of the document will be formatted using LaTeXsection, subsection, and subsubsection commands.