|  |  |
| --- | --- |
|  | Team 8 Notebook |

Memo

To: Professor Kovalerchuk

From: Team 8: George Wanjiru, Barend Venter, Jonathan Hyry, Ryan Soushek

Date:

Re: CS446 Project Proposal

**Problem**

    Students who take a lot of notes in a notebook may not have them set up in any particular order or in useful categories. It can be hard to find notes later when they are needed, and hard to use them to make derived content such as slide shows and references. To allow students to do this, they must have the ability to look at their notes, and parts of their notes, as data which they can copy, reference, and reuse in whole or in part.  
    Even if this program has little functionality in its final form, it should be easy for a programmer to extend it later to support more kinds of notes from different kinds of fields. The notebook is not setting out to solve a specific note-taking problem, but to provide a general platform for taking notes and providing a single way to organize them.

**End Users**

    The notebook application will have a broad range of end users. The application could be used by any user who wants to organize notes: specifically, we are targeting other college students. The end users may not be very experienced at using a computer; thus our product should be simple enough for them to pick it up quickly by example.

**Typical Tasks**

    Users will create a new notebook project; the project will include a tree that will show various multimedia files, including text, drawings, and formulas that are in the notebook. The tree will allow easy organization of the files, so the user can easily find the specific item they are looking for.  
    When they add a new file into the tree the file will be opened for editing in the editor pane. Here the user can edit the text file, drawing, formula, et cetera. The editor will also change based on the type of file that is opened in the editor pane. Each note in the notebook will also have a title, which will be displayed in the tree and the main editor pane; the user can change the notes title at any time. After they are finished editing they can open up the pop-up toolbar and save the project.  
    Hopefully, users will be able to take an entire project or a subsection of it and build a simple slide-show; or convert it into a PDF document that can viewed on other systems that do not have the notebook software.

**Program Design**

    As a notebook application, organization of user-generated notebook content will be a key design feature. The user interface will be organized logically and with a goal to maximize efficiency while still providing fluency of work.  
  
The Graphical User Interface idea we have so far has the following key features:

* An organization pane
  + This will allow people to select and edit notebook pages and visually see the layout of the notebook in a tree-like structure
* A hide-able general-purpose toolbar for opening and saving files, configuring program options, and performing other common program tasks such as text and notebook page formatting and exporting to image or PDF.
* A large portion of the user interface will be dedicated to the notebook page editing canvas. It will take center-stage and provide a simple, efficient space for working with notes.
* A notebook title pane providing a space to edit the title of the notebook and the currently open notebook page, and set properties of the current notebook.
* A main GUI goal it to provide a very simple-yet-powerful interface that is easy to learn and flows well during real-world use.

The program should be able to perform all normal/stated tasks without crashing and should perform efficient and user-oriented error handling to deal with bugs that haven’t been fixed. We could potentially implement a simple e-mail-based bug reporting program, but we have not discussed this to any length; any extra features that are interesting and could potentially be useful could be implemented depending on time constraints.

**Possible difficulties**

    We will need to decide on just in how much detail a students’ notes will be subdivided into elements. Can they reference particular paragraphs, or particular shapes on a bigger image? We will need to come up with data structures that will store these notes, the combining operations available to them, and file formats with which we can store these notes.

If we get these design choices wrong early in design, the whole project might be unusable later and difficult to change or extend. Each new kind of note a student might take will have to have its own special type of editor, these editors may have to be built from scratch and could take very long to finish.

Our user interface must be extremely simple; this will limit what we can do with it and we’ll need to carefully choose what sorts of features we will offer our users.