BTH545 Assignment 2

Learning Outcomes

- Learn to understand, research and create solutions to complex problems,
- Learn to think outside the box to create innovative solutions to problems,
- Learn to design user interfaces that allow novices to perform complex problems,
- Practice good user interface design principles.

Description

Renaming files is usually done one at a time using a file browser or command line interface. When multiple files need to be renamed, it quickly becomes very labour intensive. To reduce the labour of the task, a GUI based tool is needed that will meet the following requirements:

- It should be able to select multiple files from a single directory or recursively from a single directory and all sub-directories,
- The tool should be able to select the files based on whether they match a pattern specified by a regular expression,
- The regular expression must have a way of naming the actual symbols in a file name that match particular parts of the pattern so that they can be referenced later in the same pattern or used as part of the new name that will be used for the file,
- The new file name can consist of
  - Fixed strings that were not in the original file name,
  - Parts of the original file name,
  - Information about the file including the owner, modification day, modification month, modification year,
  - GPS information from image files including latitude, longitude, country and city (to be determined by looking up the location on a map)
  - The day, month and year when the renaming tool was run to rename the files,
  - Arbitrary numeric sequences that increase from a starting value with every file renamed. These can have a fixed number of digits or a variable number of digits. If the fixed number of digits is exceeded, they will wrap around to the starting value and can optionally increment the value of another numeric sequence.
- The tool can place the new files in the same directory or another directory. It should also have the option of performing a copy or a move of the files.
- The tool should be as easy to use as possible and designed for relative novices. It should contain some sort of help to onboard new users and to provide help during the use of the tool.
- Since renaming files is very difficult to undo, the tool should have some way of reducing the possibility of the user making mistakes before they happen.
- The tool should be as visual as possible and provide good visual feedback to the user.

Your design should:

- Be usable for the average computer user,
- Br innovative in its design so that it does not look like every other interface,
- Provide a visual way of doing things that is relatively easy to use,

- Be visually appealing,
- Able to meet all of the requirements,
- Implementable using current GUI technology or HTML5/JavaScript.

You will be marked based on how well your interface meets all of the requirements and the criteria above. A routine GUI interface that looks like most other interfaces but meets the requirements will get 70-80%. To get a mark above that, you have to exceed the minimal requirements.

Deliverables

- A design for the interface as a series of drawings or wireframes using XD,
- Explicit, annotated images that show exactly how operations are performed,
- Images of every part of the interface,
- A clear description of the interface and how each operation can be performed,
- A precise definition of all notations used in the interface,
- A description of the help provided to the user,
- A description of how the tool prevents the user from making errors,
- A discussion of why you laid out the interface in this way and the rationale for key design decisions,
- A discussion of the use of colour, fonts and graphical elements that make the interface easier to read, more understandable or easier to use for the user.
- A list of all members of your group.