CS2720 Practical Software Development

Doxygen Tutorial Spring 2011

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Doxygen

Tool used to generate user manuals from **documented** code. It can generate:

- html

- latex

- rtf

- man pages

- others

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There are four steps in the process:

1. generate a configuration file

2. modify the configuration file

3. document the source code

4. create the desired manual

Step 1, generate a configuration file

Type the command:

```
doxygen -g filename
```

- This will generate a configuration file with the name *filename*

- If *filename* is omitted, it will generate a configuration file with the name *Doxyfile*

- This configuration file is rather large since it is fully documented, explaining the purpose of each tag.

- To strip the documentation use the **-s** option.

Step 2, use an editor to modify the configuration file.

- insert a project name

- turn on *Extract all* if you have not used doxygen comments in code.

- specify which type of documentation is desired (html and latex by default)

- adjust input source if required

- adjust others (some examples)

  - repeat brief

  - references relation

  - referenced by relation

  - paper type

If you do not want to manually create and modify the configuration file, you may be able to use the **doxywizard** which is a fancy GUI front end for Doxygen.

Step 3, documenting the code

Several styles

- C style   /**

- Qt style(C version)   /*!

- C++ style   ///

- Qt style(C++ version)   //!

Typically all doxygen documentation precedes the item being documented.

Docmentation consists of **brief** and **detailed** descriptions

- brief

  - typically a single line

  - shows up in the brief description in the user manual

  - often is inserted prior to the declaration of item being documented

  - can be multi-lined, use the `\brief` tag, which continues the description until a blank line is found.

  - to place a brief description **after** an item, use `///<`

- detailed

  - typically multi-lined, containing tags

  - shows up in the detailed description in the user manual

  - often is inserted prior to the definition of item being documented

To get Doxygen to document a file, you must put `\file` in the file

To document class members, the class must be documented

Many tags are available to be used in the detailed description. Here are some of them:

- `\param`

- `\return`

- `\pre`

- `\post`

- `\exception`

- `\date`

- `\author`

Step 4, create the manual(s)

Simply type

```
doxygen filename
```

- This will generate all of the manual formats specified in the configuration file named **filename**

- If you did not specify a filename, then just use

  ```
  doxygen
  ```

  which will use **Doxyfile** as the configuration file.

- Each format will be in its own directory.

  – You can use any browser to view the html manual **index.html**.

  – You can convert the latex format to pdf by typing *make*. This will create **refman.pdf**.