EH203 - Week 4 - Project

# Specification

You are to develop a photo gallery website, which automatically displays images from folders on the server and generates thumbnails.

The application should create list of galleries dynamically from the subdirectories within a root directory. For example, given the following root folder called ‘data’

data

My\_Trip\_to\_Burera

img001.jpg

img002.jpg

Rwinkwavu

img050.jpg

img051.jpg

img053.jpg

it should list 2 galleries (‘My Trip to Burera’ and ‘Rwinkwavu’). When the user views one of those galleries, it will automatically display thumbnail images for each of the photos in that directory, which are links to the full size image.

You provided with a very basic example of such a web app, which is accessible at:

http://intare:8080/eh203-gallery

# Requirements

1. A ‘gallery list’ page which dynamically generate a list of galleries from the subdirectories in the root folder
2. A ‘gallery view’ page which dynamically generates a grid of thumbnail images which link to the original images
3. Generate thumbnail images dynamically - when displaying a gallery check each image to see if a thumbnail image exists - if it doesn’t then generate one (see next page for code). Thumbnail images can be stored in a subdirectory of the gallery directory.
4. Use a custom tag for each image thumbnail which uses attributes for gallery name and image name

# Extra Credit

1. Create a filter which intercepts all requests for the image files (i.e. ‘\*.jpg’) and checks the referrer url in the request headers.
2. Generate thumbnails which have the same aspect ratio as the original images

# Useful Snippets

### Listing all files/subdirectories within a servlet directory

Relative paths in your servlet code depend on the working directory of the Java VM, which can vary between containers. Therefore relative paths need to be passed through the getRealPath() method of ServletContext.

To enumerate all of the items in a directory, use the list() method which returns a list of all the names of all the items (files and subdirectories):

File dir = **new** File(getServletContext().getRealPath("/data"));

**for** (String item : dir.list()) {  
 // TODO: do something with each item  
}

### Resizing an image

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\* **@param** imagePath path of existing image to resize

\* **@param** thumbPath path of thumbnail image to create

\* **@throws** IOException

\* **@throws** FileNotFoundException if image doesn't exist

\*/

**private** **void** generateThumbnail(String imagePath, String thumbPath)

**throws** IOException, FileNotFoundException {

BufferedImage img = ImageIO.*read*(**new** File(imagePath));

Image timg = img.getScaledInstance(100, 100, Image.*SCALE\_DEFAULT*);

BufferedImage bimg =

**new** BufferedImage(timg.getWidth(**null**),

timg.getHeight(**null**), BufferedImage.*TYPE\_INT\_RGB*);

bimg.getGraphics().drawImage(timg, 0, 0, **null**);

FileOutputStream out = **new** FileOutputStream(thumbPath);

JPEGImageEncoder encoder = JPEGCodec.*createJPEGEncoder*(out);

encoder.encode(bimg);

out.close();

}