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| Edinburgh Napier University |
| Advanced Web Technologies (Set09103) |
| Coursework 1 Report: Google’s Doodles online catalogue |
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# Introduction

The web application developed for this coursework is Google’s Doodles; a personalised repository for still and moving alterations of the Google logo to commemorate special events [1] . The catalogue is made of doodles displayed on Google homepages around the world through the months of August to October 2016. The python based application developed within the Flask framework makes use of Google Material design, JQuery Jinja2, Html and CSS to present the collection of selected doodles.

This report outlies the development process for this web application from design to implementation including evaluations of the development journey and final product as well as recommendations for possible future enhancements

# Design

In

The design process for the Google’s Doodles web application began with disposable paper mockups of the various web pages of the app listing the desired functionality for each page. From the collection of the completed paper mockups, a list of the server side functions was created which helped to inform the desired url structure for the app.

Further mockups were done in html and css and the initial app hierarchy was created including the creation of different directories for images, static content and a directory for user uploads was created as well.

As the idea was an uncommon one further research had to be undertaken as to which design trend was applicable for an application of this type. A short visual review of web applications was taken using resources such as ======= and Google’s own website for Doodles. The Google website was particularly usefyl in iforming the design of the web app as te website as it was hard to navigate due to over-use of dynamic elements such as in hovering over a doodle card that pointed to a interactive doodles, you were taken to the specific information page for that doodle rather than the full collection of interactive doodles. This complication with interactive doodles such as games and Jquery affected the intialplan for the web app as had originally been a category of doodles. A temporary solution at this stage ofdevelopment was to include an upload feature for the users of the web application.

Surveying the Google site alsogave the idea of dynamic loading of the most recently added doodle as a way to grow the collection available on the web app in future.

Decided to use Google material Design and implemented card like structure in home page to simplify and focus on functionality based on having looked at other exmples of web apps, this proved to be the most beneficial design structure rather than displaying the app like a standard website.

Finally a small sample of google doodle images ad gifs were manually downloaded to be part of the first iteration of the prototype application. These were placed into the earlier decided static folder structure and the url structure was decided around these 3 main elements of the web app:

Personal user collection

General browsing

Latest Doodle

These functionalities then had the following urls nested under them and are reflected largely within the live version of the app:

Personal user collection

Sign in

upload

General browsing

All doodles

Jpg only browse

Gif only jp browse

Browse Containg a certain string

View individual files

Download files

Latest Doodle

Looked at Google’s own website collecting old Doodles and chose to simplify the design aafter using their ynamic website as it was hard to navigate due to over-use of dynamic elements such as in hovering over a doodle card that pointed to a interactive doodles, you were taken to the specific information page for that doodle rather than the full collection of interactive doodles. This complication with interactive doodles such as games and Jquery halted implementation of this type of doodles at this point of development, although the inclusion of user uploads with an account allow for future inclusions of this

# Enhancements

Uploading of files if signed in

# Evaluation

## Technical

The python functions ould be refined in order to not have functions repeated across routes,

Future versions would do better to make use of a database and as the collection is built up a search function using the database

## Personal

The most challenging parts of the development where in not moving too far ahead of the material already covered in class into more complex territotry such as the use of databases, which had not been covered at the time of planning the application. This decision was so as to ensure that the web application did not go too far beyond the coursework scope whcich would have meant that time was wasted on demonstrating development techniquess there is opportunity to attempt in future and to ensurethat the understanding of the basic applications of Jinja templates and Python in web applications were known to a high level, while including some of the more advanced functionality common in web applications on the web such as usage of jquery to dynamically load images in a browsing page or ability to preview in slideshows. Merging the two levels of difficulty proved challenging at points especially in extending the Jinja conditional logic with jquery or learning what python functionality was available in the pre installed libraries and flask, especially in relation to Image rendering when may sources reviewd for this task recommended using PIL or the Python imaging library.

However it was a good exercise I becoming more precise in my search terms and I became well aquainted with Flask after reading the documentation frequently.

# Appendix

# Resources and References

[1] https://www.google.com/doodles/about