

# Course Work 1 Advanced Web Technologies

Calum Chittleborough  
40285295@live.napier.ac.uk

Edinburgh Napier University - Advanced Web technologies (SET09103)

## Abstract

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## 1 Introduction

The web app which has been created in order to fulfill the requirements that have been set out. The web application itself will allow a user to be able to browse through various pages of information to do with sci-fi - movies, TV shows and games - and be able to go from those those to find more detailed information about specific titles. The application itself is basic as the main function is to allow the user to go through the before-mentioned information. The web application itself has a hierarchy that makes sense and works in relation to what is being searched for by anybody that is using it.

## 2 Design

The Design of the web application was based on using python flask as opposed to PHP. Due to this, it allowed various approaches to be taken which could not be taken otherwise. One of these would be inheritance of html pages.

This can be seen on the web application where there is the main html page (home1.html) and using Jinja2 tags allowed that to be used as a basic template for all the other html pages to be derived from and stopped the repetition of code, for example, the navigation bar.

Another area of design that has been used while using python flask is the usage of html templates throughout the web application. By doing this, it has allowed to keep what is on the main python file down to a minimum as well as keeping the other files separate which has allowed debugging to be done much easier due to being able to go to the specific html template where there has been errors as well as the python file being kept to a minimum allowed going through that easier to find errors also.

Using the python flask also allows to give hierarchy of the web application on the main python file. This branches from the main page and goes into the various sub-pages that make up the web app. The following is a rough visual representation of this (figure 1):

Another part of the design is using a redirect in the main python file. This has allowed an error page to appear when there has been something searched for in url bar which does

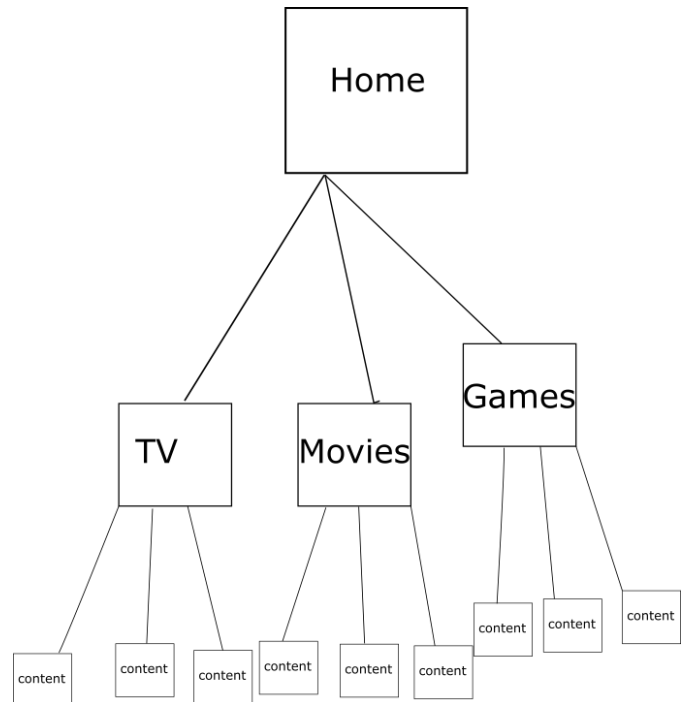


Figure 1:

not feature as part of the website and let the user know that there has been an error getting what they have requested.

The web application also makes use of bootstrap: []. This has allowed added to the structuring of the web app as it is what takes care of static files such as the images and deals with how they are presented to the user, such as the images that are seen on the main page. Bootstrap is also what gives the web app its colour scheme, though this would be changeable in the CSS folder. It also helps make the web app become adaptive to what browser/ screen size the user is using.

## 3 Enhancements

If there were more time the web application could have had a variety of enhancements to make it better for both the user and the programmer.

The main enhancement would be to allow for more user interactivity. This could have been done in various ways for the web app. One example would have to be to allow a log in system which would could have had various levels to it such

as an admin level which would allow access to what is actually on the web app. Also a user level of log in - this could have incorporated more interactivity because once accounts have been made which users can log in, it could have allowed various forms for the to interact such as a comment section - which would have use on a web app with a theme such as sci-fi as it would allow opinions to be shown and discussions to be had. This would have had to tie in with a database for the comments to stored as well as the users data for logging in such as passwords and user names.

Another enhancement that could have been made to the web application could have been a way of it being able to communicate with other websites and databases through API's. This would be incredibly useful for this web app as it would give a much bigger database of various forms of sci-fi for the user to be able to look through.

On top of those enhancements, being able to have a working window for youtube on the pages for the specific sci-fi media that is being looked at as it would allow people to have a taste of what they are currently looking at. This has been attempted on the "horizon zero dawn" page but with more time should hopefully have become workable.

Another enhancement which would have worked well for this kind of web application would be to have a search bar that relates to what is being searched for. This would have been important for this kind of web application because it would cut down the amount of effort and time to find the information on a specific area because instead of going through the various links to other pages in the site or memorising the specific url for a certain page, the user could just quickly type what they are looking for in the search bar and get to it from there.

A further enhancement would have been to allow a way to go between pages using hyperlinks on pages where the content has some sort of relationship. An example of where this could have been implemented could have been between the "Firefly" page and the "Serenity" page where the latter is a movie of the former. It would have made it a easier to navigate for the user to get between the two pages if they had the interest rather than having to go back to the TV or Movie section via navigation bar and separately going for one of them.

Another area for enhancements could have been the general aesthetics of the web app. This could range from things such as more static files such as images to brighten the pages to an image slider which could the give the user some response for when browsing the images. This could have been added further on by changing the colour scheme (though the default works well with the subject it is) to adding some more information on the pages.

## 4 Critical Evaluation

The main area where I feel the web application works well is the application itself. Everything works as I feel it should do. A user is able to get through the pages and access the data easily from main page as well as any of the other

pages that they are currently on as the web application is well mapped.

The web application is also reasonably simple to use. Most people with previous use of the internet would easily be able to use the web application and find what they are looking for in it.

Another area that the web application works well is that it is fairly quick to use. This could however be down to various reasons. One of the reason being that the pages themselves aren't full of content to be loaded be it pictures or words.

This lack of content is an area where it falls short as it could have been much more detailed

The web application falls short in its simplicity. This can be seen through out the web application. Partly because of what is based on (sci-fi) it already presents very specific areas that can be looked with not a lot of leeway.

The navigation within the web application is an area which could be worked better. While it is workable it could also have become much more streamlined - similar to the enhancements section of this report - the way that the user navigates through the web application is very restrictive to going through links and type the specific url. This could have been negated by something as simple as a search bar where what is being looked for is simply typed in and found from there.

## 5 Personal Evaluation

The main area for personal improvement would be time management of the project. Due to poor time management, there are features that have been omitted from the final project which otherwise would have enhanced it to some degree. An example of this is can seen on the "Horizon zero dawn" page where there is a window for youtube videos to be shown - specifically one which relates to the content of that page. The problem is that the video does not show on the web application - though the youtube window does appear which itself took some searching to find out how to do. [1]

A challenge that came up in the development of the web application was to do with the 'ConfigParser' on Flask. It just would not work with my app for a reason which was not able to be solved. The solution that allowed this to be solved was by using the original way to contact the host that was taught in the course work book:

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```
1 if __name__ == ("__main__"):
2     app.run(host='0.0.0.0', debug=True)
```

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Putting that back into the code allowed it to work again without any problems. It would have preferential to have this section in a defaults page but as it was not working this work around allowed the continuation of work as well as the application working properly. This was partly done through trial and error but also with looking online but the fixes did not work in the way that worked with the web application. This could have been down to a mixture of being new to the coding language used (python), not enough time being put

into working it and being comfortable with a method that got the results which were desired.

This project has a lot of room for improvement - both personal and with the project, as can be seen in both of these evaluation sections as well as the enhancement section. However, the project does allow the user to move through different parts of information in a fairly straight forward way that is not confusing and is fairly down to the point with what it does and the information it gives. If there was more time spent on the project as well as some more time getting to know python and Flask, the project could have become a lot more ambitious than its final form.

## References

- [1] N/A, "Bootstrap 3 responsive video embeds that maintain aspect ratio,"