

4CCS1PRA – Major Coursework

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Report of the Application

1. INTRODUCTION

The purpose of this report is to introduce the domain describing a possible extension to this application. The main application “Shark Tracker” connects to an external server which allows the user to retrieve real data from several sharks according to the selection made in the software.

Apart from that the user can then have some statistics, save its favorites sharks and see their location on a global map.

The software can allow the creation of multiple users, each one of them with their respective profile data including a password and the list of their favorite sharks as mentioned earlier on.

Since nowadays the number of mobile devices used are increasing all over the world I would recommend as an extension to the developed software, producing various versions of it, optimized for different environments.

For example we could not only extend this software to apps for all most of the mobile operating Systems (Example: Android, IOS, Windows 10) but also we could extend it for web environments so it could be accessed by different browsers.

All these versions should have friendly and useful user interfaces depending on the device we are using.

With this extension done we could also allow the user to add information to the software to help it improve like photos of sharks, locations where they have seen a different shark, etc. This information would have to be checked before becoming online and rated based on its viability comparing with the real information.

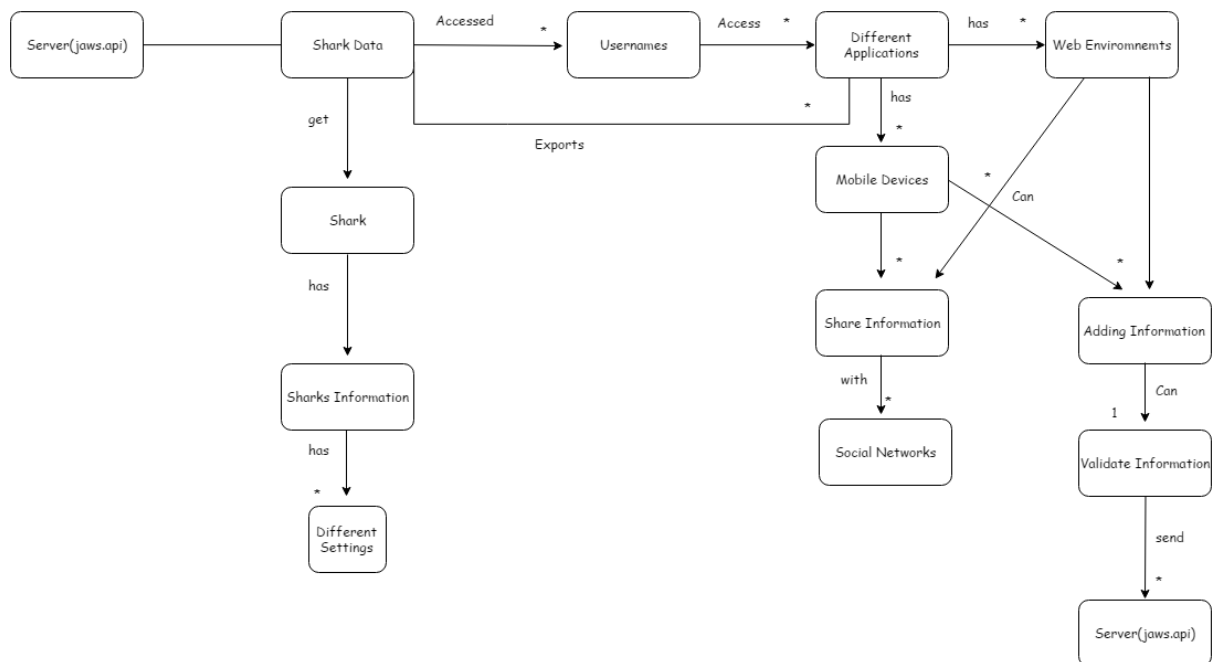
Another recommendation I would propose is to add sharing capabilities to the software, so that the users can easily share the relevant information about the shark with other type of users by the use of the Social Networks (Example: Facebook, Twitter). That way we could increase the market reach without having to spend a considerable amount to advertise the product.

2. DOMAIN ANALYSIS

The diagram presented bellow represents the domain model of the application with the extra feature mentioned above.

As presented before with the described extensions we could:

- Use the Application on Different Environments
- Optimize the application for each Environment
- Add Relevant Information to the Software
- Have all the information validated and rated with a scale
- Use the Application to Share Relevant Information
- Provide access to Social Networks, e-mail, in order to extend the “brand”



3. HIERARCHICAL TASK ANALYSIS

The Hierarchical Task Analysis bellow represents the choices that the user has when using the application.

Plan 1 (start using the correct device):

Do 1

Plan 2(Login):

Do 1, then 1.1, 1.1.1

Plan 3(Search Shark)

Do 1, then 2, 2.1, 2.1.1, 2.1.2, 2.1.3

Plan 4(Send Information)

Do 1, then 2, 2.1, 2.1.1, 2.1.2, 2.1.3, 2.1.3.1

Plan 5(Share Information)

Do 1, then 2, 2.1, 2.1.1, 2.1.2, 2.1.3, 2.1.3.2

Plan 6(Search Statistics)

Do 1, then 2, 2.3, 2.3.1, 2.3.3

Plan 7(Share Statistics)

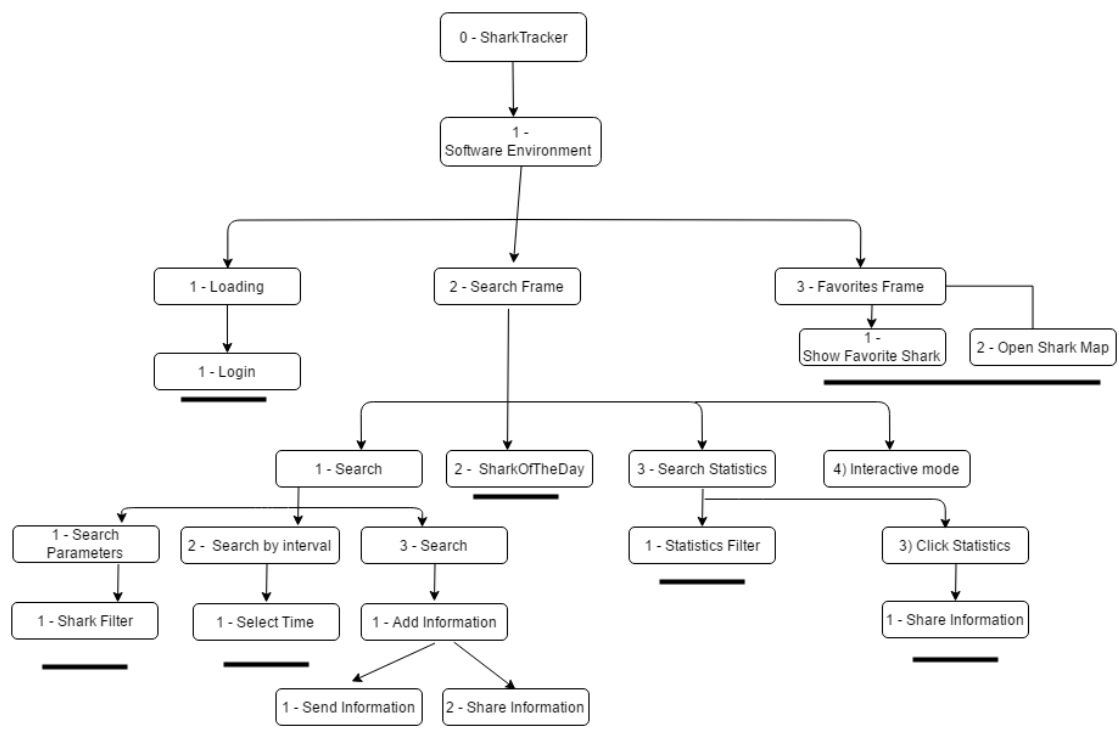
Do 1, then 2, 2.3, 2.3.1, 2.3.3, 2.3.3.1

Plan 8(Access Favorites)

Do 1, then 3, 3.1

Plan 9(Open Shark Mao)

Do 1, then 3, 3.2



4. Virtual Windows

The frame below represents the main Frame of the Application.

The application window is titled "Search" and has a menu bar with "Guest", "Shark of the Day", and "Interactive Mode".

Search Filters (Left Sidebar):

- Shark Tracker**
- Tracking Range:** Last Month
- Gender:** All
- Stage of Life:** All
- Tag Location:** All
- Buttons:** Search, Statistics
- Logo:** SHARK TRACKER BY TALENT

Shark Profiles (Main Content):

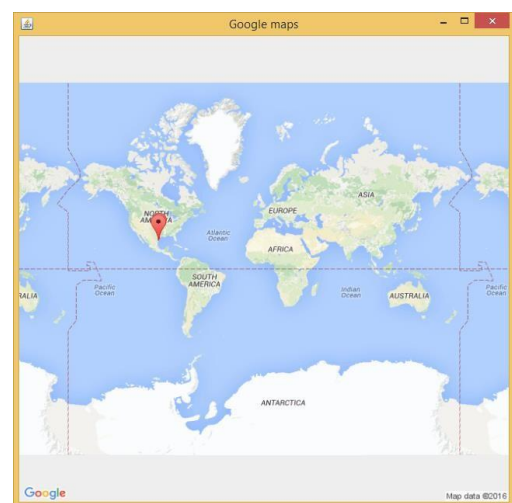
Name	Gender	Stage of Life	Species	Length	Weight	Description	Last ping	Follow
Georgia	Female	Undetermined	Tiger Shark (Galeocerdo cuvier)	8.5 ft	253 lbs	Georgia was the first shark tagged during Expedition Jacksonville 2016. It is not often that you see white sharks and tiger sharks cohabitating. We were surprised to see Georgia show up behind the boat. The water temperature was perfect for white sharks at 65 F, which is also a temperature tiger sharks are found in. OCEARCH has an on going collaborations with Bryan Frazer from South Carolina Department of Natural Resources. This shark will add to his sample size. Georgia was named in honor of the state she was tagged by suggestions during the Periscope live streaming.	2016-03-26 03:59:54	Follow
Lampiao	Male	Immature	Tiger Shark (Galeocerdo cuvier)	8'3"	273 lbs	Lampiao was named after the most famous bandit leader of the Cangao. Cangao was a form of banditry endemic to the Brazilian Northeast in the 1920s and 1930s. Lampiao exploits turned him into a folk hero, the Brazilian equivalent of Jesse James. A fan, Ellen Pereira, of Cat Dealer Sotreq in Brazil named the tiger shark.	2016-03-26 01:50:39	Follow
Daymond	Male	Undetermined	Mako Shark (Isurus oxyrinchus)	6 ft	120 lbs			

All the information used in this application is the property of Ocearch (<http://www.ocearch.org/>) and CAT (<http://www.cat.com/>). Thanks to EPMF.

Depending on the chosen environment we would have a different user interface that would be appropriate to the current device. The frame above shows one for a desktop application.

The Sharing function and Adding Information could be added to the Interactive Mode Tollbar or to the Search and Statistics Frame.

5. Global Navigation Structure



Guest

Shark of the Day

Interactive Mode

Search

Shark Tracker

Tracking Range

Last Month

Gender

All

Stage of Life


All

Tag Location

All

Search

Statistics



SHARK TRACKER

BY TALENT

Name:

Georgia

Gender:

Female

Stage of Life:

Undetermined

Species:

Tiger Shark (Galeocerdo cuvier)

Length:

8.5 ft

Weight:

253 lbs

Description:

Georgia was the first shark tagged during Expedition Jacksonville 2016. It is not often that you see white sharks and tiger sharks cohabitating. We were surprised to see Georgia show up behind the boat. The water temperature was perfect for white sharks at 65 F, which is also a temperature tiger sharks are found in. OCEARCH has an on going collaborations with Bryan Frazer from South Carolina Department of Natural Resources. This shark will add to his sample size. Georgia was named in honor of the state she was tagged by suggestions during the Periscope live streaming.

Last ping: 2016-03-26 03:59:54

Follow

Name:

Lampiao

Gender:

Male

Stage of Life:

Immature

Species:

Tiger Shark (Galeocerdo cuvier)

Length:

8 3

Weight:

273 lbs

Description:

Lampios was named after the most famous bandit leader of the Cangao. Cangao was a form of banditry endemic to the Brazilian Northeast in the 1920s and 1930s. Lampios exploits turned him into a folk hero, the Brazilian equivalent of Jesse James. A fan, Ellen Pereira, of Cat Dealer Sotreq in Brazil named the tiger shark.

Last ping: 2016-03-26 01:50:39

Follow

Name:

Daymond

Gender:

Male

Stage of Life:

Undetermined

Species:

Mako Shark (Isurus oxyrinchus)

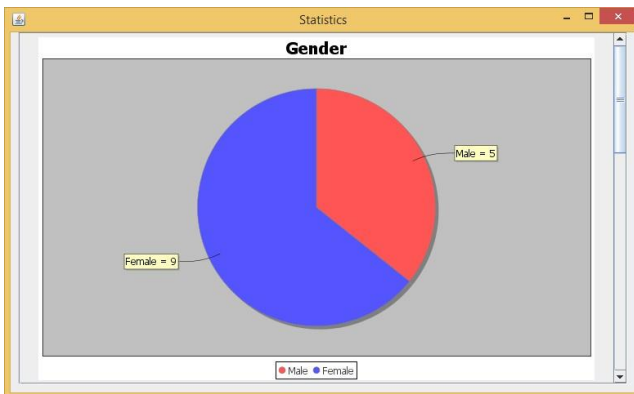
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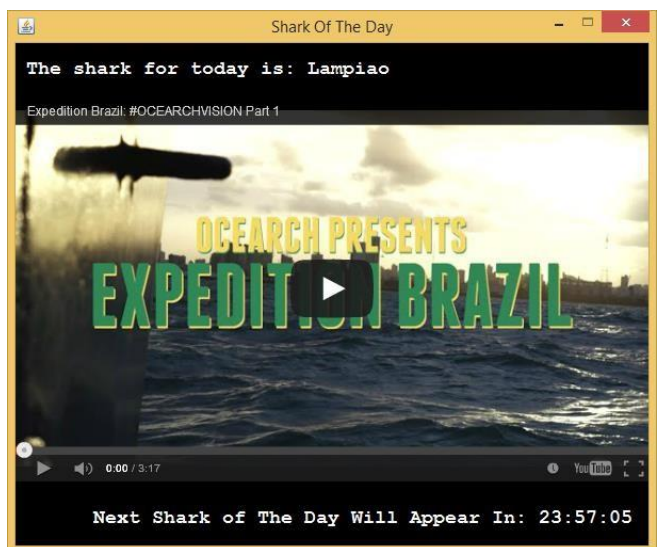
Shark Of The Day

The shark for today is: Albert

Sorry this shark does not contain a link for a video

Next Shark of The Day Will Appear In: 09:15:21

OK



6. Summary and Conclusions

The application implemented allows the user to navigate in an easier and fast way throughout the software.

The code is structured according to the Model View Controller so it could be easier to change the design according to the different environments.

With a useful set of classes we can determine the best approach to each objective according to the created Method.

We will be presented with a loading screen to help the user know the status of the program. The same thing happens when the user searches.

The whole interface is designed to be efficient according to the user's needs. It stores the correct information at the correct time reducing the search and the other features time to access the server.

The software has different APIs integrated so it can help in the development and maintenance of certain features belonging to the Shark Tracker Software.

One of the most important parts was the attention to detail like for example displaying the time for the next shark to appear, or updating the favorites list each time we follow or unfollow a shark. Also we can see this on the login page where we need a password in order to register within the software. The password is also sorted and hashed.

The little details to the software that we can encounter can improve dramatically the user experience and the need of using the software again making sure this is one the right approaches to take in the development of the Shark Tracker.