

ECO HARBOUR

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SYSTEM ANALYSIS AND REQUIREMENTS

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1. Problem Definition

In the realm of fishing it is observed that all the existing fishing applications mainly focus on suggesting potential fishing spots and to record its catches. This lacks data accuracy and sustainability. So the main objective of this project is to ensure responsible fishing practices for the long-term preservation of marine resources.

2. Requirement Specifications

2.1 Functional Requirements

- Provides details of different fish species and its availability at specific locations.
- It provides alert notification to the fisherman in case of bad weather detection.
- Users can view all their previous and current catch records.
- There is an option which provides some rewards to users who maintain a sustainable fishing practice.
- Users can share their experiences through community forums.

2.2 Technical Requirements

➤ Performance

To access the website the user must have secure internet connection

➤ Data Security

The data and information are stored in a secure manner through account passwords and ensures that there is no unauthorized access.

➤ Data Storage

The information is safely kept in a database so that only authorized program administrators have access to the database

3. System Requirements

3.1 Hardware Requirements

OS:- Windows 10 or above

Processor:- Core 2 Duo

Memory:- 4GB RAM

Storage:- 1 GB

3.2 Software Requirements

OS:- Windows 10 or later

Front End:- HTML,CSS / React Js, Java Script

Back End:- Node Js / Express Js

Software Required:- MongoDB Atlas

3.3 Network Requirements

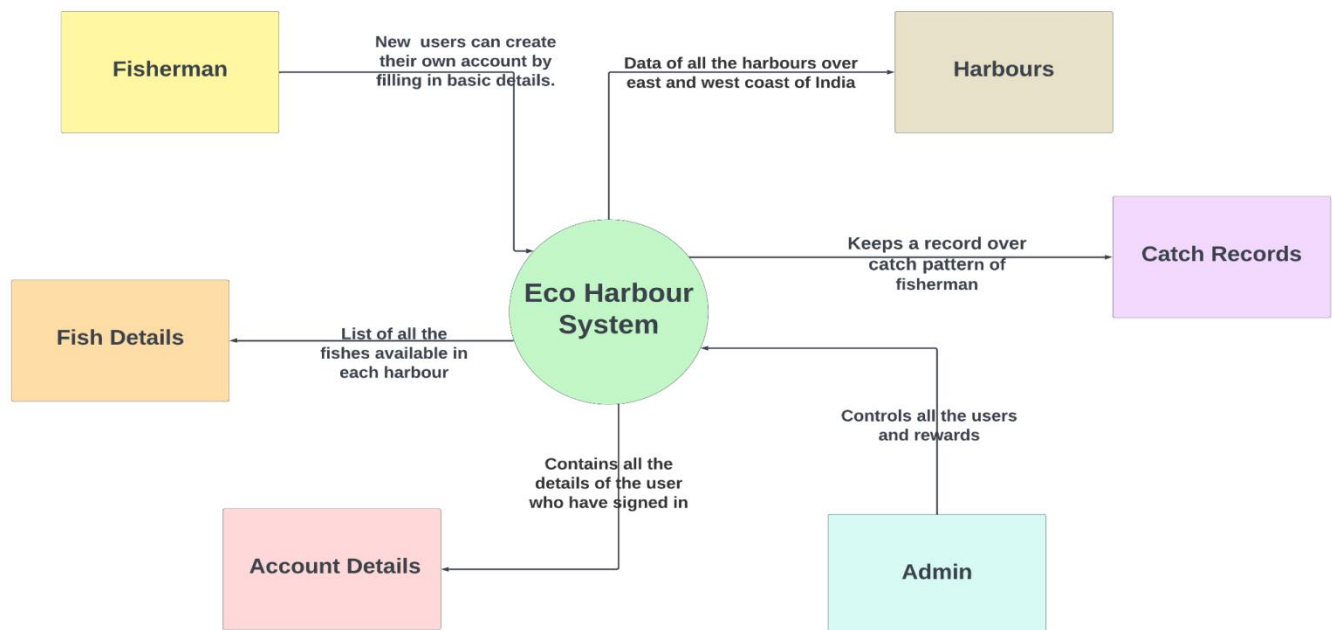
Network:- Google Chrome

Wi-Fi:- Internet Required

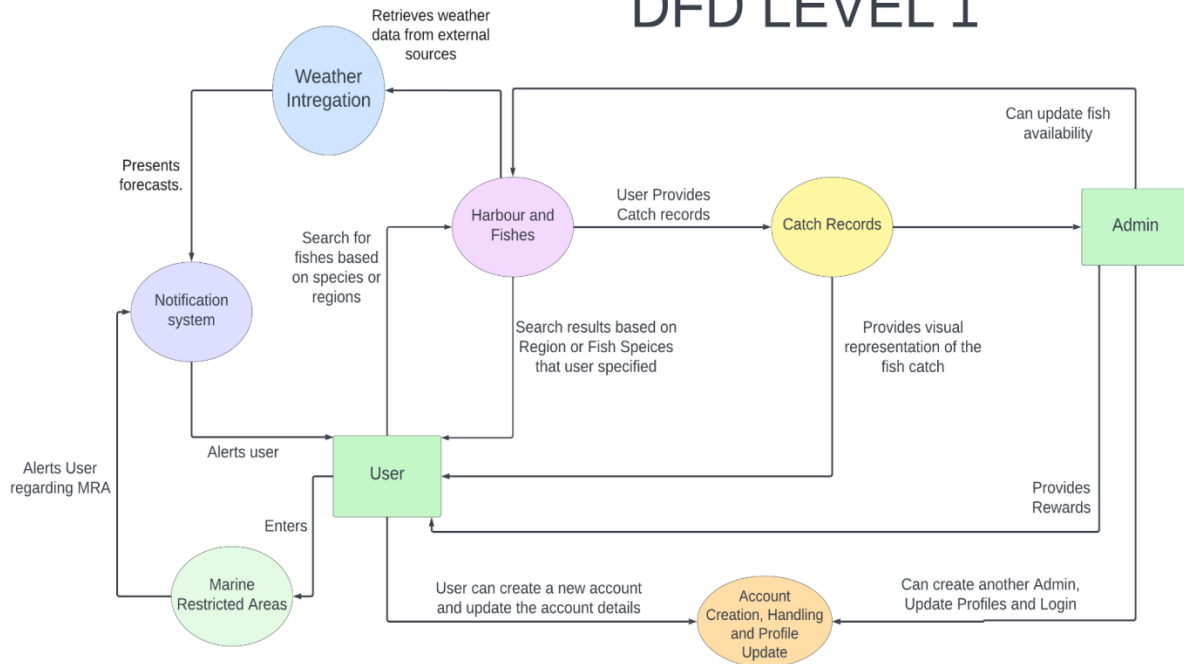
4. Conceptual Models

4.1 Data Flow Diagram

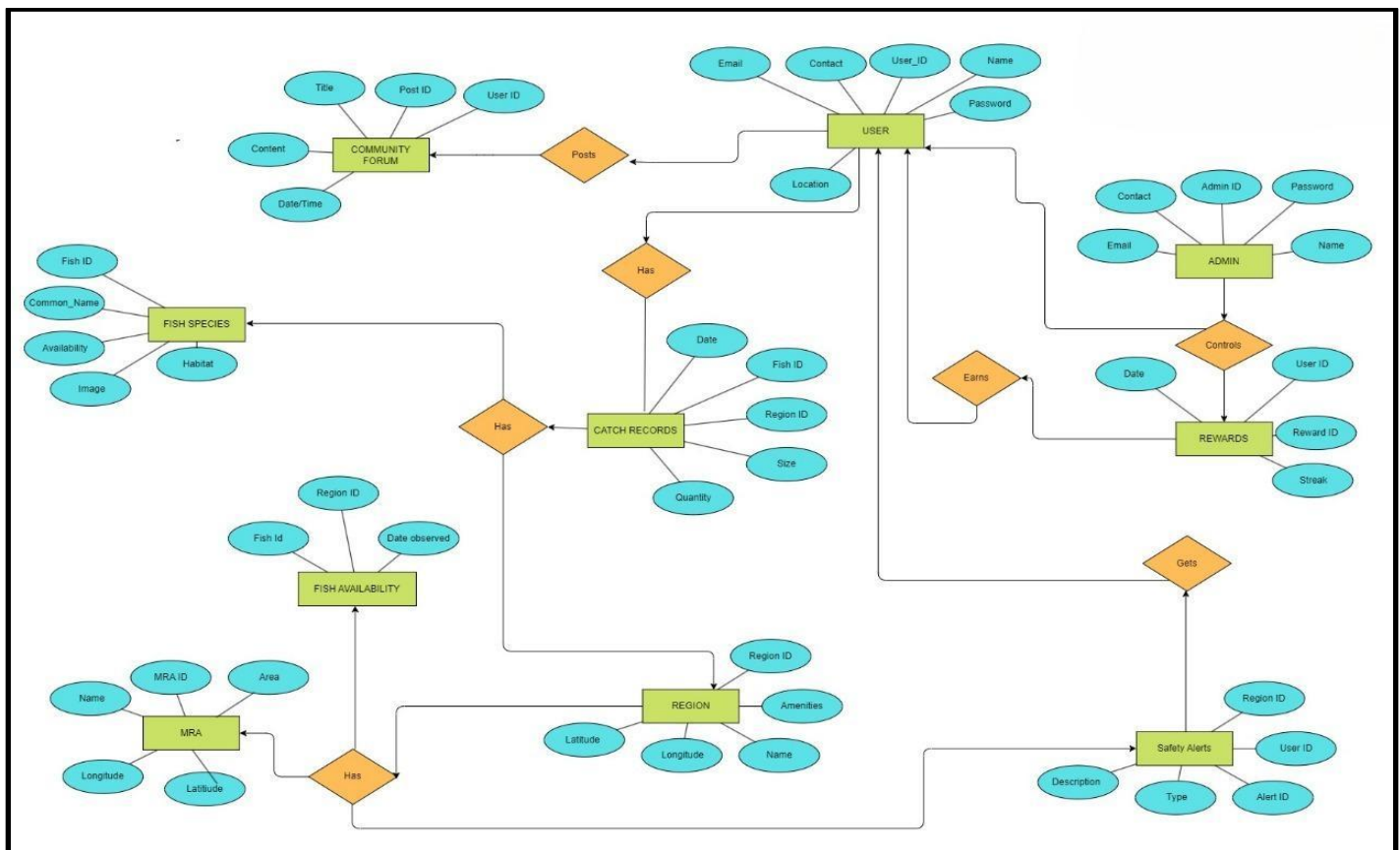
DFD LEVEL 0



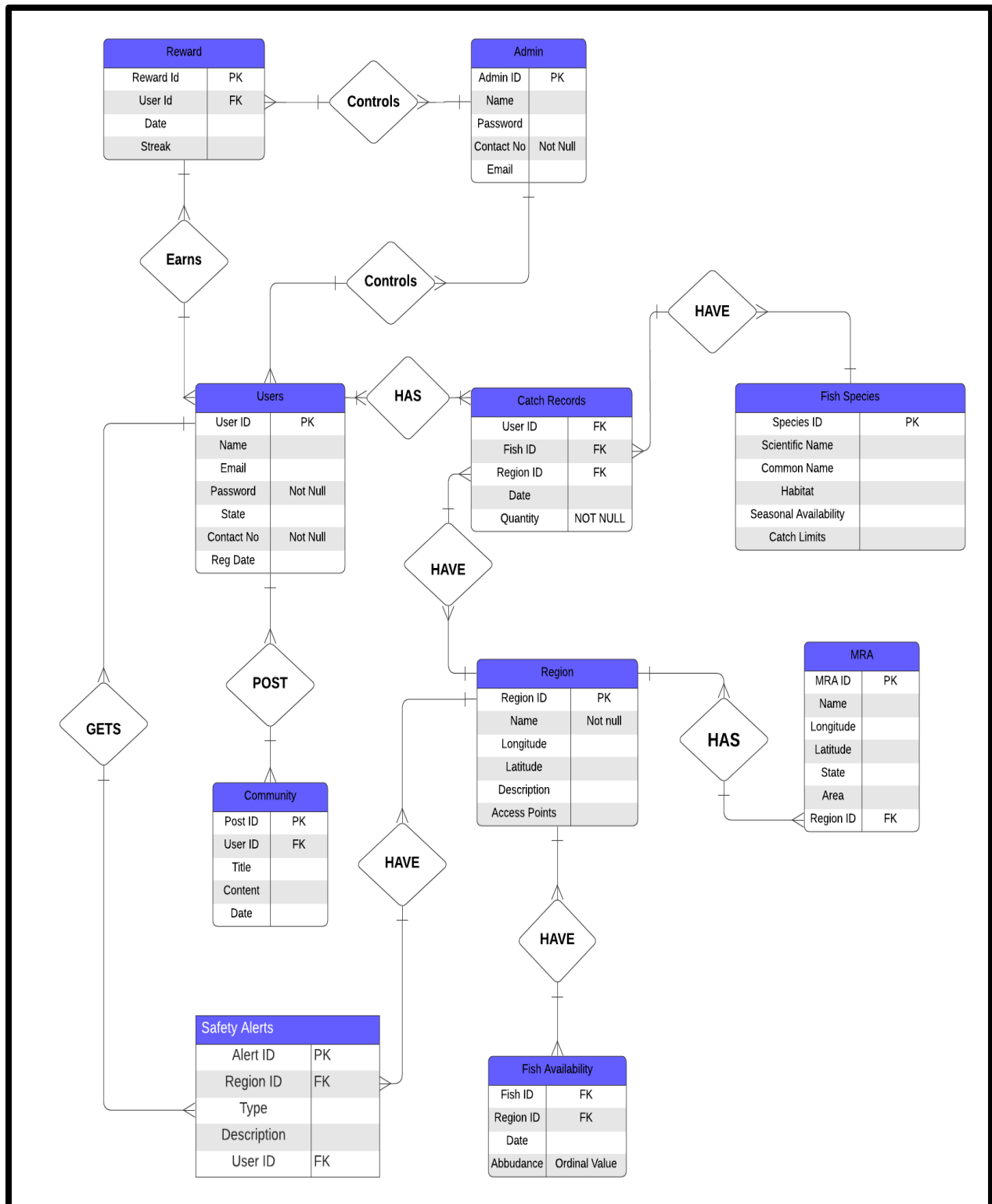
DFD LEVEL 1



4.2.1 ER Diagram



4.2.2 Class Diagram



5. Proposed Tools and Platforms

5.1 Windows 10

Microsoft created and published Windows 10, an operating system for personal computers. The Windows 10 Operating system will be used for producing all the code and database -containing files.

5.2 Google Chrome

Google created and maintains the cross-platform web browser known as Google Chrome. Google Chrome will be used for the entire site surfing for their examination and functionality and also to store all the related databases.

5.3 MongoDB

MongoDB is an open source platform used for storing all the databases. It will be storing all the database tables in a non relational format or JSON format and MongoDB Atlas will be used for hosting the database over site. Also MongoDB Compass will be used for storing a local copy of the database.

5.4 Express JS

Express JS or simply known as Express is a JavaScript framework that will be used for all the back end development with the help of all the RESTful APIs. Its major association will be establishing a connection with the database and performing all the queries on the database.

5.5 React JS

React Js is an open source JavaScript framework that is used for making the front end of the website. It will be used for designing all the UI/UX of the website with all required packages being associated and downloaded with NPM like icons, Date, Time, etc.

5.6 Node Js

Node Js is a cross platform JavaScript framework that is used for server side scripting. It will be used in addition to Js Engine 8. Using Node Js and Express Js we will be establishing a connection with the database server and executing all the functions.

5.7 Visual Studio Code

VS code also known as Visual Studio Code is an editor that will be used for the coding and debugging. VS code comes with a lot of extensions and features for each type of programming language and will be used for development purposes.

5.8 Git & Github

Git & Github is a version control and tracking system that will be used for tracking the development and also backtracking in case of deviations. It is a multiuser system wherein people can combine to do various projects and hence will be used by our team for Collaborative Development.