**Database Systems**

**Project Specifications**

**Project Name: Fishes database**

**Instructor: Sir, Sharifullah Khan**

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**Phase 1:**

**Abstract:**

Concerned with the study of fishes we will design the database for the department of fishes based on their given requirements and we shall convert that software requirement into complete database by passing through all the phases of the database designing and we will insert data by finding through different Internet resources related to database from s data sets, associations and organizations, journals, news sources, and citizen science projects. The resources included are useful to a broad audience that might include librarians, researchers, students, and the public.

**Introduction:**

A fish is an aquatic creature, which is a cold-blooded vertebrate and has gills throughout life and its limbs are in the form of fins. The number of species in fish is greater than the species of all other vertebrates like Mammals, bird’s reptiles put together. Fish has different types depending upon their physical and habitat characteristics.

Such as Lungfishes who can live in a state of dry suspended animation for up to 4 years, becoming dormant when their ponds dry up and reviving quickly when immersed in water. Antarctic fishes live in water that is colder than the freezing point of their blood. Deep sea fishes include many forms that can swallow prey larger than themselves. Some deep-sea anglerfishes are characterized by females that are 10 times larger than males, the males existing as small parasites permanently fused to the side of the female, living off her blood stream. Then on physical aspect fishes can be bony, jawless, and cartilaginous.

This database will cover all living fish types. Currently there are more than 10,000 species including 2,800 subspecies. There are 28400 species of fish spread in 515 families. The database focuses on taxonomic data i.e. names and synonyms, distribution and type data.

**Software Requirements and Specifications:**

Each fish has unique id, name, color, average living age, weight, structure and length. Each fish has diseases which include disease name, disease cause, disease type and disease time (average lifespan of disease).

Fish has three major categories that include bony fish, jawless fish and cartilaginous fish. Each bony fish has fid and group. Similarly, each jawless fish has id and group. Each cartilaginous fish has fid, group, breath type and cover structure.

Fish eats food, each food has id, name and type. Each fish has a family. Family has scientific name and family name.

Other than this there are many benefits for us from fish so we also want to keep record of those benefits one of the most important benefit of fish is that they are used in by products. Each by products have product name, manufacturing date and expiry date.

It is also interesting fact of fish that their existence very from place to place as they found at different location across the world in different countries with different ratio so we also interested to keep the records of where these different types of fish found and what is their ratio at different location across the world so for location we consider the country name, population, country code, found in and specie number.