



Allergen Database

Group 6

Members:
Cristian Cortez
Paulo Chu
Kevin Nguyen



Records and Fields:

World Health Organization: division of United Nations

International Union of Immunological Societies: International standards on immunology

- Uses named assignment for allergens

National Center for Biotechnology Information: division of National Library of Medicine

- Uses a numbered system of assignment for allergens

Name: Common Name used by everyone

Type: plant, animal, insect, food etc.

WHO / IUIS: Name designated by international standards.

NCBI Number: Number designation

Symptoms: Common vs Severe



Layered Development Schedule: 5 Layers

Functional Minimum: A basic UI with records showing common name and type of allergen. Basic functions including add/ delete.

Low Target: A simple search function able to result one name and/or one type. Also, the ability to create checksum excel file.

Desirable Target: A database that holds multiple records including name, type, symptoms, WHO/IUIS nomenclature, and NCBI number. Also, a more advanced search return multiple records for a desired field. Also, a rudimentary GUI that gets the job done.

High Target: Some way to display all records and fields found within the database, sort of like a browse function.

Extras: A proper GUI system that is easy for the user to read and navigate.



Member Roles and Weekly Meeting:

Project Manager: Cristian

- Includes scheduling meetups, goal tracking, functional features.

Tech Lead: Paulo

- Includes designing and implementing classes, linked lists, structs used for fields and records

QA: Kevin

- Includes implementing tests and cases that might crash or harm the program.

Current Weekly Meeting: Tuesday and Thursday before Class



Data Structures:

Classes:

Getters / Setters:

- name()
- type()
- Glnumber()
- WHO/IUIS name()

Stacks:

- Use a Linked List to keep track of user searches.
- Will be able to backspace back to a certain instance within the database.
- Might be able to track adds / deletes



Excel File: Creating The Database

A. Database would include:

- a. Allergen Common Type
 - i. Peanuts, Honeybee, Shrimp, and etc.
- b. Allergen Specie Type
 - i. Plant, Fungi, Animal, Insect, and etc.
- c. Allergen GI# (A number used to directly find the specific allergy)
 - i. Peanut Allergy GI# - 543219
- d. Allergen Symptoms
 - i. Common Symptoms
 - 1. Irritation, Slight swelling, Small pains, and etc.
 - ii. Severe Symptoms
 - 1. Difficulty breathing, Intense pain, Collapse, Death, and etc



File Stream: Accessing The Database

Use what we learned in Assignment 3:

- Use fstream to access the excel file (?)

Use the streams to return user search results

- E.g. User searches for “soy” and return all fields to related “soy” record
- E.g. User searches for “Food plant” type and return all fields etc.
- E.g. User searches for “123456” NCIB num and return all fields etc.

Alternatively, implement some way to convert records found within the excel file into a linked list or hash table that can then be used for search results.



Menu: Navigating The Database

Gets user's input to navigate the database

- Search by type
- Search by name
- Search by number

Has an option to go back to the previous page and escape option (Stack or Linked List)

Return Information about each allergens in their respected pages