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Allergen Database Phase 1 Project Proposal

Our project is to design an Allergen Database where doctors and research professionals will be able to build records using a rudimentary menu. This database will have records for name, type, symptoms, NCBI number (National Center for Biotechnology Information), WHO and IUIS nomenclature (World Health Organization/International Union of Immunological Societies). These fields will be used to create an application where a user can add, delete or search for specific allergens using a common name (e.g. eggs, soy, etc.), type and NCBI number. The search will return just the field that shares the common named searched by the user. The user can also search the database by type, where the result would be all allergens with similar type. Also, we will be implementing a system where the program writes to an excel file that will be initially created by the program and used as a checksum for the information it is creating.

The NCBI is a subdivision of the United States National Library of Medicine (NLM), a branch of the Nation Institutes of Health (NIH). NCBI number is a designation defined by the National Center for Biotechnology Information describing the location of the record found within the NCBI Bookshelf. This Bookshelf is a collection of peer reviewed publications that hold information regarding chemistry, biology, biotechnology, biomedicine, disease and allergen information. It is used as a standard to help doctors

and researchers search through these fields described above. We will utilize this information within our own database.

The World Health Organization is a specialized division of the United Nations concerned with international health. The International Union of Immunological Societies is a community established to create international standards of health regarding immunology. Both organizations have sought to establish popular nomenclature used in identifying diseases and allergies. These names created by these organizations will be used as possible search queries within our own database.

Layered Development Schedule:

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 fields including name, type, symptoms, WHO/IUIS nomenclature, and NCBI number. Also, a more advanced search return multiple records for a desired record. 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, using a rudimentary GUI.

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

Scheduled Finish:

September 5 - October 3:

- We expect to be done with our functional minimum and low target goals within this time. There will be a released version called “Alpha Release” that will have these requirements completed as described above. This time will be used mostly to cover the Technical Design, Coding, and Testing portions for Phase 2.

October 3 - November 14:

- We expect to be finished with the desirable target by this time. We will be mostly finishing the remaining programming and debugging and be trying to implement any of the high target and extra goals described above.
- If the high target and extra goals are too far from our grasp of the finish deadline of December 3rd, then we will adjust expectations accordingly.

November 14 - December 3:

- We expect to be finishing any remaining debugging during this time. This will include any interface layout design problems that might inhibit user productivity involving our database.

Technical Design:

- We will design a flow chart for all basic data structures used and how they communicate with each other. For example, we might have different classes utilizing similar elements for type. Our flowchart should be layered in such a way that it is easy to understand how our database is managed.

Coding:

- By this time, we should have running classes for the various fields used. We will have proper implementation for each various class and have test examples of how doctors might input data for these allergens.

Testing:

- We will implement real tests for a version “Alpha Release” where real examples will be used as demonstration for our functional minimum and low target requirements.

Team member roles:

- Cristian - Project Manager
- Paulo - Tech lead
- Kevin - QA

Program Applications and Usage:

The main usage of this program will adding/deleting allergens, searching allergens, and keeping running totals of fields such as type and symptoms. Our target user would be doctors and researchers who are already knowledgeable of allergies and need a management system for allergies. This will be an application used to help manage these different fields for allergens with a rudimentary menu for adding, deleting and searching. The user should have on-hand knowledge of the allergen they wish to include or search. In other words, this is *NOT A BROWSER FOR ALLERGENS.* This will be a management system used by doctors and professional researchers. Also, this program will create and write to an excel file which will be used as a checksum for completion.

The criteria for pass or fail will be determined by the schedule laid out in the document above. If goals and deadlines are being met, then this application will be considered as passed. Also, checking the excel file where our program will write to will be a conditional for pass or fail.