



# LOYALIST COLLEGE IN TORONTO

Lab 4
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Group I

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**Course Code:** CSDD1008

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# Assignment Submission Checklist

- Is this my best effort? ☐
- Has the spelling been checked? ☐
- Is the references section correct? ☐
- Is all cited material referenced? ☐
- include screen shots ☐
- is the code included cover the requirements ☐
- Is the code runnable/executable ☐
- Are there any materials that you have not cited? (Should therefore be expunged). ☐
- Describe the output meanings ☐
- Is the word length, OK? ☒
- Have I checked for spelling and grammar? ☐
- Is your name, student number, instructor's name and course code on the title page? ☒
- Explanation of the used Menu Options / functions . ☐
- Are Measures/Dimensions explained with enough details. ☐
- Is the output graphs match the developed codes ☐
- X, Y labels are defined and titled in the graph correctly ☐
- Did I check the whole checklist? ☐
- Layout in general acceptable – you need to consider sections. ☐

## **EXPLAINING THE PROBLEM**

Our genes are the most priceless gift that our parents have given us, so it's crucial to look after them.

The majority of the older and some younger generations are currently afflicted with genetic disorders like diabetes, thyroid disease, migraines, high blood pressure, heart disease, and many more that they are not even aware of. Therefore, it's crucial to educate them about their susceptibility to specific diseases and the preventative measures they can take to prevent it from getting worse.

Today, a large community of people of all ages regularly takes medications for various hereditary or infectious disorders. Because many of us frequently forget to take or give medications on time, it is crucial to take medications as directed. This gave us the idea to incorporate the ability to set reminders in our applications, which can alert users and assist them in taking excellent care of both themselves and people around them.

## **EXPLAINING THE SOFTWARE PRODUCT AND HOW WE CAN SOLVE THE PROBLEM**

### Software Feature Explanation:

#### **PREDICTIVE - ANALYSIS:**

-The user may receive a thorough analysis of the qualities' actual values and expected values based on older generation projections.

-Similarly it is possible to predict future generation inherited traits by upto 50% based on single parent predicted data.

#### **NUCLEOTIDE BLAST (Basic Local Alignment Search Tool) Operation:**

The user can perform a thorough examination of the DNA that provides details on the proteins and DNA mutations that took place.

The DNA can be thoroughly examined by the user to reveal information about the proteins and DNA mutations that occurred.

#### **OFFLINE MEDICATIONS:**

The user is provided with some common medications and remedies easily available based on diseases predicted

It will also include diseases like flu , asthma and other common conditions.

#### **FAMILY REMINDERS:**

In order to keep his family members informed about daily responsibilities like taking their medications on time and attending doctor visits, the user can set reminders for each member of his family.

Provides function to SMS or call to the user by sending the reminder.

### How the features solve the problem:

By using matching algorithms and NCBI Blast to list the nucleotide patterns discovered, we hope to tell people about their genetic make-up.

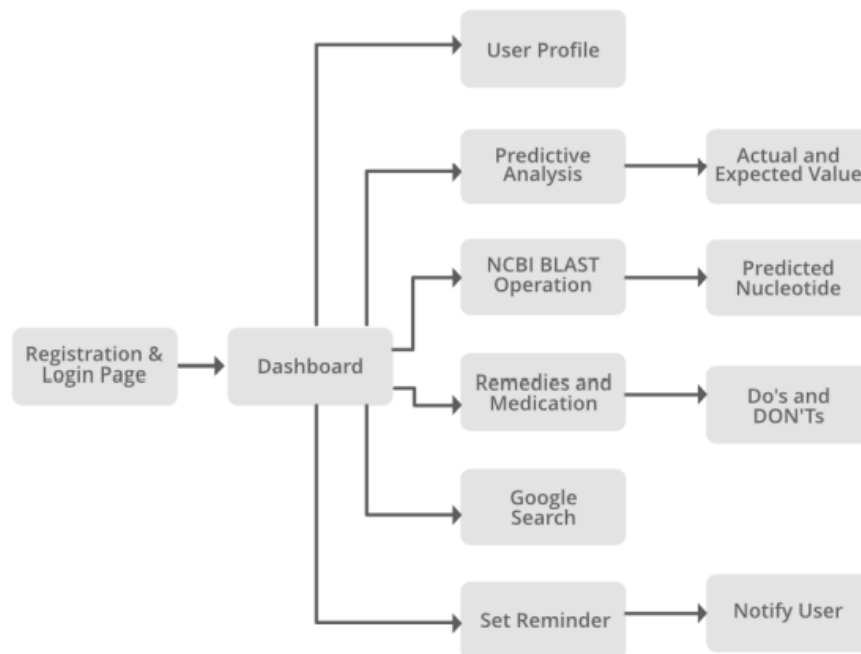
We also want to make it easier for our users to set up reminders for their grandparents and parents who live far away to take their medications or go to the doctor for routine exams.

We also want to assist people understand how likely it is that they may inherit some of the most prevalent genetic diseases from their ancestors, such as diabetes, thyroid disease, migraines, congenital heart disease, thalassemia, and rheumatoid arthritis, depending on the symptoms they exhibit.

We also hope to educate people on certain offline DOs and DON'Ts for some of the most widespread and common diseases, as well as the appropriate medication.

### **MICROSERVER ARCHITECTURE**

#### Naming Different Microservices:



Relationship between microservices and their communication:

