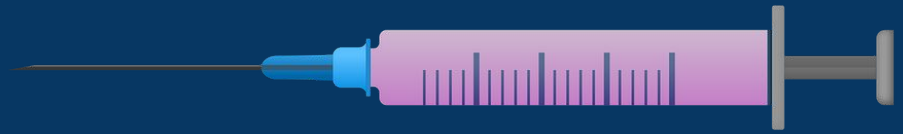

Vaccine Trial Information Storage

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Agenda

1. Context
2. Implementation
3. Tests
4. Efficiency
5. Problems and solutions

Context

The development of vaccines depends on trials, that require data to be well stored and easily accessible

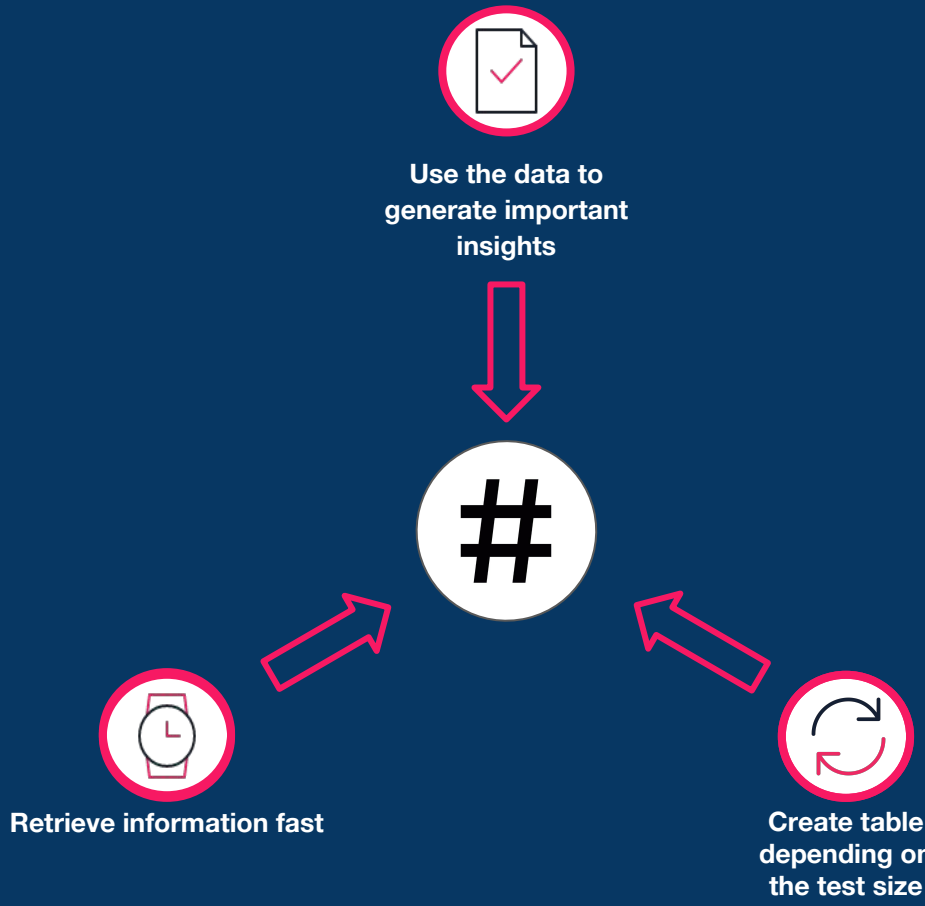
The software should handle vaccine trial data

Store and allow us to find the data

Proposal

Use a hash table to efficiently store and find the data of a patient in a compact manner.

Using a Hash table to store the data



Implementation

Data Input	Data Storing	Searching Data
Use a CSV file Extract the data Use the ID to insert it to the table.	Make a class to hold the data Link it to the next patient that shares the same hash key	Use the patient ID to search for their information in the table.

Tests

Mitopia
Technologies

- testFindAPatient()
- testImportCsv()
- testFindAPatientAttributes()
- testHandleNone()

Structure of the data

- We use a open hash table.
- Linked lists store the patients who share the same hash key.

Cell 1	Cell 2	Cell 3
Patient 1	Patient 2	Patient 3
| V	| V	| V
Patient 11	Patient 12	Patient 13

Patient Data

1. Patient ID
2. Name
3. Email
4. Reaction
5. Vaccine/Placebo
6. Date of Vaccination

Efficiency of our approach

ID serialization allows us to evenly spread patients in the table.

Hash function directly points to the column we need to index from.

Dynamic sizing of the tables gives us a worst case search scenario of 2 comparisons.

Problems

Constant for table size -> possible worst efficiency cases

How to handle None nodes?

Solutions

Set the size of the table depending on the test size

Use an if not None statement

Thanks!