**University Timetable Scheduler**

**Introduction**

**1.1 Overview of the project**

University Timetable Scheduler is a user-friendly Qt based C++ GUI Application which helps the timetable coordinators or staff members to schedule and manage various class or laboratory daily schedules. The main agenda of this application is to generate teachers or class/laboratory schedules for an educational institution.

The application uses Qt as a front end for interacting with the user , Object Oriented C++ routines for managing user interfaces and for scheduling, a database engine popularly know as SQLite for storing and retrieving the user data or the generated schedules and some UNIX Shell commands to pre-process the given user input.

**Concepts**

**1. Inheritence**

In object-oriented programming, **inheritance** is when an object or class is based on another object or class, using the same implementation (inheriting from an object or class) or specifying a new implementation to maintain the same behavior (realizing an interface). Such an inherited class is called a **subclass** of its parent class or super class.

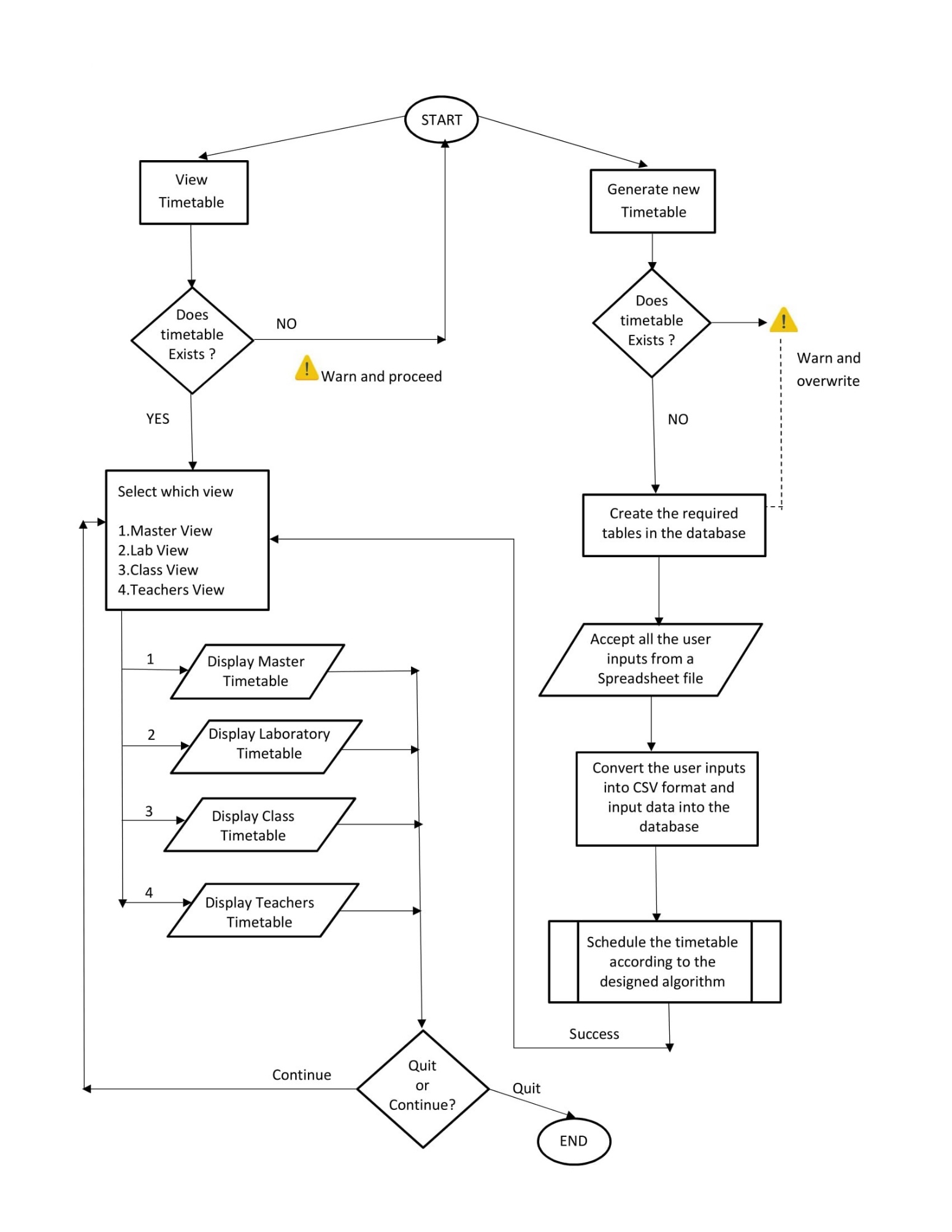
**2. Encapsulation**

In object-oriented programming,encapsulation is a mechanism of binding the data, and the functions together in a class and use them by creating an object of that class.

**3. Data Abstraction**

Data abstraction refers to, providing only essential information to the outside world and hiding their background details, i.e., to represent the needed information in program without presenting the implementation details. Data abstraction is a programming (and design) technique that relies on the separation of interface and implementation.

**Architectural Design**



**References**

* Programming Knowledge Video series

<https://www.youtube.com/user/ProgrammingKnowledge>

* Qt online Documentation

<https://doc.qt.io/qt-5>

* SQLite Documentation

<https://www.sqlite.org/docs.html>

* Tutorials point : SQLite

<http://www.tutorialspoint.com/sqlite>

* “The Book of Qt 4 The Art of Building Qt applications” - Daniel Molkentin
* “Advanced Qt Programming” - Mark Summerfield
* StackOverflow

[http://stackoverflow.com](http://stackoverflow.com/)

* C++ Documentation

<http://www.cplusplus.com/doc>

* Qt forums

[https://forum.qt.io](https://forum.qt.io/)

* SQLite

[https://www.sqlite.org](https://www.sqlite.org/)

* GIT (Version Control)