**CSCI370 Visual Programming**

**Project**

**Spring 2021-2022**

The purpose of this project is to allow the students to implement most of the concepts discussed during this course.

You need to create an application using Visual studio and C# Programming language as a final project.

**Project Rules:**

* You are allowed to work in groups of 2 at most or alone.
* The project should be one that its code is not available and found on the internet.
* It shouldn’t be one that was submitted in previous semesters.
* You can get help from the internet, but at least 60% of your project should be written by yourself.
* The project should contain minimum **two forms** in addition to the first **Login form**
* You can choose one of the below lists or propose your own topic.

**Projects List:**

1. [GasRight](#Project1)
2. [FoodForAll](#Project2)
3. [Library Management System](#Project3)
4. [HR System](#Project4)
5. [Blood Donation Application](#Project5)

1. [School system](#Project6)

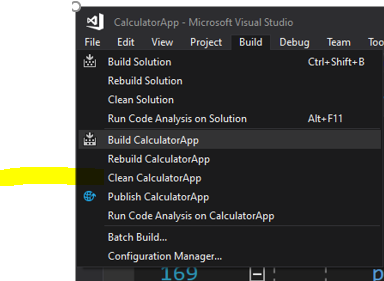
1. [Hotel Management System](#Project7)
2. [Educational Game](#Project8)
3. [Car Rental Application](#Project9)

1. [Doctor’s Appointments Application](#Project10)

**Instructions**

* Design the application system according to the topic chosen.
* Use appropriate fonts, colors, and images for Frontend (GUI design) of your application.
* Your chosen application must have a database and properly connected to the system. (**Database should be designed using SQL Server Management Studio**)
* Database must contain minimum **three Tables and relationships** between the tables.
* Test the software and submit the project on or before the given deadline.

**Project files to be submitted?**

1. Before you submit your project, you need to clean it to reduce project size.
2. Then you need to go to the project folder and compress it.
3. Export your database, or backup the database.
4. Upload the compressed, and the database files to google classroom.
5. Prepare a Zoom meeting with your colleague in the group. In the meeting present your desktops and explain the project. The meeting should not be more than **10 minutes**. Both students in the group should show a sample run and explain the code they wrote. Be sure to introduce yourself during the presentation.

**Note: any student that does not present the project, will lose 40% of project grade.**

1. Record the meeting and submit it with your project source code.
2. Don’t forget to click on submit after you upload both the project source and the recorded meeting.

**Note: Don’t add the video inside a zip file.**

**Project Deadline:**

The project deadline is **Wednesday 1st June**. Any student that fails to submit the project by that date, will get a zero.

**Project 1. GasRight**

The gasoline crisis that hit Lebanon during the banking and financial crisis that hit Lebanon, led many citizens with questionable morals to take advantage of the situation by filling their cars, going home, emptying the car tank into jerry cans and refilling again multiple times during the week if not the day.

This led to long waiting lines on the gas stations and led to black market prices of 1000X the real prices. Many citizens lost time and money because of this.

Creating an application that will monitor gas filling based on cars VIN (Vehicle Identification Number – Every car has a unique number usually placed on the dashboard).

Their profession and how much gasoline the profession needs will categorize citizens. For example, Emergency Medical Responders (EMRs) who are always on the move to help sick individuals might be allotted 100 liters of gasoline per week while teachers who drive to their school might be allotted 40 liters of gasoline per week.

Every time a car driver pulls to a gas station, the attendant reads the VIN number and automatically will have on the screen the following information:

* Name of the owner
* Owner’s profession
* Gasoline limit per week
* Date of last gasoline fill
* The amount of the gasoline she is entitled to until the end of the week cycle.

The attendant can now serve or not serve the customer based on this information.

This solves the black market, prevents gas station lines, and allows all drivers to attend to their work.

**Project 2. FoodForAll**

A similar project to **GasRight** could be developed for food essential products allotment.

**Project 3. Library system**

A library system which gets the data of books, reads, edits and stores the data back in the database.

* Searching by book title, author , ….
* adding new books
* Updating books
* Deleting books
* Statistical reports

**Project 4. HR system**

Human resources system which gets the data of employees, reads, edits and stores the data back in the database.

Data of employees should include images in addition to all classical information of employees (personal data , salary , overtime , ….)

**Project 5 Blood Donation App**

In this project, you’ll create a Windows-based blood Donation management app. This application must meet the following requirements:

* Register a new user.
* Store key data such as blood group, Rh factor (positive/negative), donor’s name, address, telephone number.
* Retrieve above data through search.
* Find appropriate match for a particular blood group AND Rh factor type.
* Display amount of different blood types currently in storage.

You can make this application much more complex by asking for the donor’s prior medical history and showing a positive match only if certain medical conditions are found to be absent, sending a message to the donor if storage levels for his/her blood type are low, etc.

**Project 6 School system**

Develop a School system which allows the staff to manage grading system

The School system maintains records for:

* Students
* Exams
* Grades

The application should allow users to manipulate these records , and generate the result for each exam (average , lowest , highest grade) and other results

**Project 7 Hotel Management System**

Develop a Hotel Management system which allows managing hotel staff (room keeping), clients and transactions such client reservations …

Room’s part of the hotel keeps records for them that contain the following information:

* Floor
* Type
* Price
* Status
* Bed’s number

The transactions that can be made in this system are as described below:

* Manage the reservations and services
* Bill the client when he leaves the hotel.

**Project 8 Educational Game**

Educational game allows Student to select category of field or domain to play and the level, pool of questions is randomly selected and user has to answer, at the end a score is calculated and saved for this user.

Application allows administrator to:

* 1. Add more questions
  2. Modify questions
  3. Delete questions

**Project 9 Car Rental Application**

The car rental app must include specific functions for the administrator and the user.

Users must be able to conveniently create accounts and log in

Users/customers expect the car rental app search to be simple for example: car class, price, color, and so on.

The user must have access to the reservation panel. Car rental scheduling, cancellation, fee estimation or so-called “instant booking” is something that must be included in every car rental app.

For admin:

the admin should have information about the bookings made and customer details.

* Admin car
* Add a car
* Update car
* Delete a car

**Project 10 Doctor’s Appointments Application**

The doctor appointment application that is especially meant to help patients manage and schedule appointments with the doctors.

**Patient can:**

Login in

Search for a doctor based on his specialty, region

Allows patients to book an appointment

Cancel the appointment

**Doctors can** :

Login into the app

Add his availability

Check the appointment on specific date

**Admin** :

Log into the app

Add new doctors

Update doctors

Delete doctors