

# UNIVERSITY MANAGEMENT SYSTEM

## TRAINING REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD  
OF  
DEGREE OF BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE ENGINEERING



**Submitted By:**

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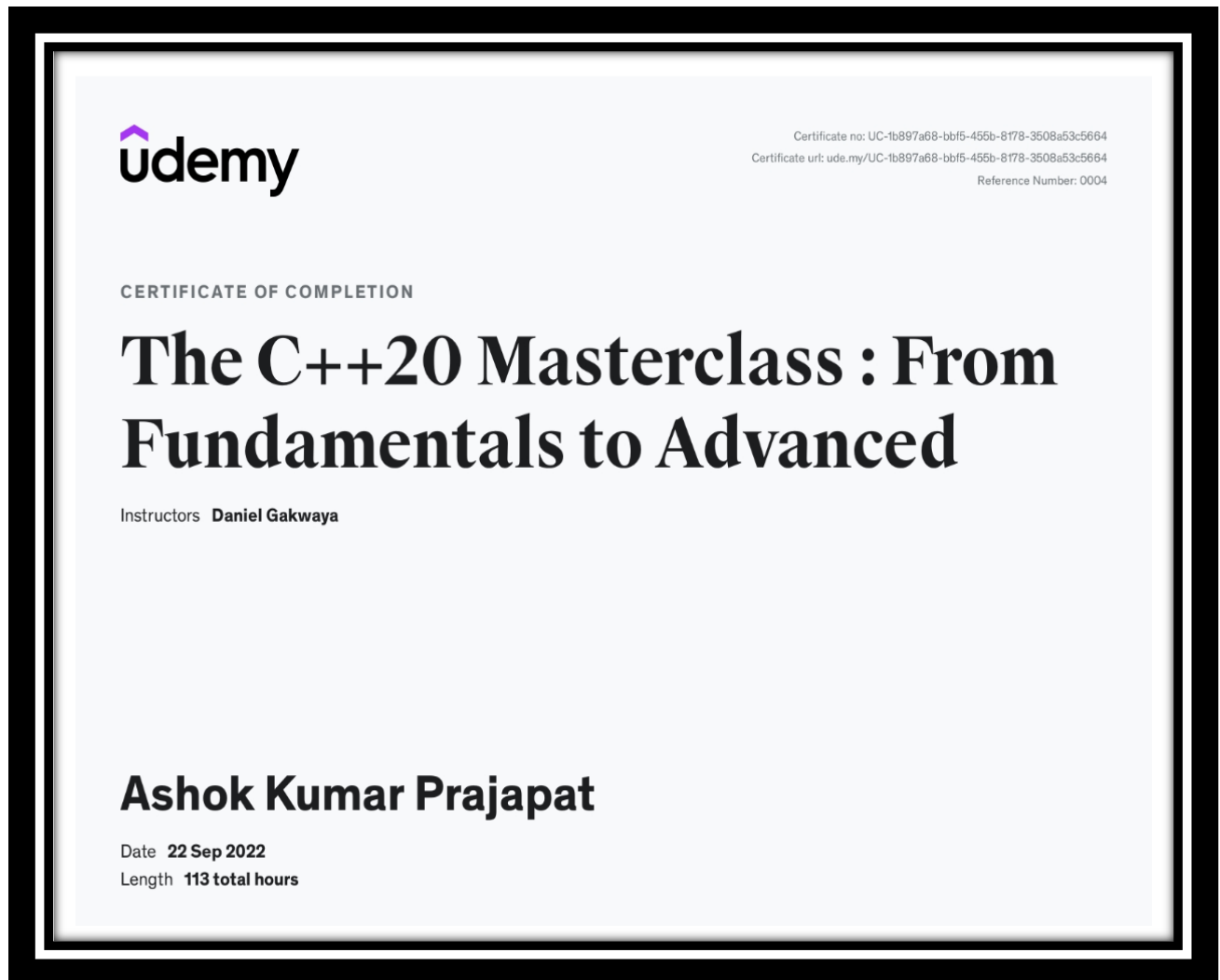
**Department of Computer Science & Engineering**



**DRONACHARYA COLLEGE OF ENGINEERING  
KHENTAWAS GURGAON, HARYANA**

**CERTIFICATE OF TRAINING**

**THE C++ 20 MASTERCLASS: FROM FUNDAMENTALS TO  
ADVANCED**





# **TRAINING REPORT**

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**Degree of Bachelor of Technology in Computer Science Engineering**



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## **STUDENT DECLARATION**

I hereby declare that the Practical Training Report entitled ("University Management System") is an authentic record of my own work as requirements of 6-weeks Industrial Training during the period from **27 July 2022** to **22 Sep 2022** for the award of degree of B.Tech. (Computer Science & Engineering), Dronacharya College of Engineering.

**(Signature of student)**  
**(Ashok Kumar Prajapat)**  
**(23027)**

**Date: 04 Oct 2022**

Certified that the above statement made by the student is correct to the best of our knowledge and belief.

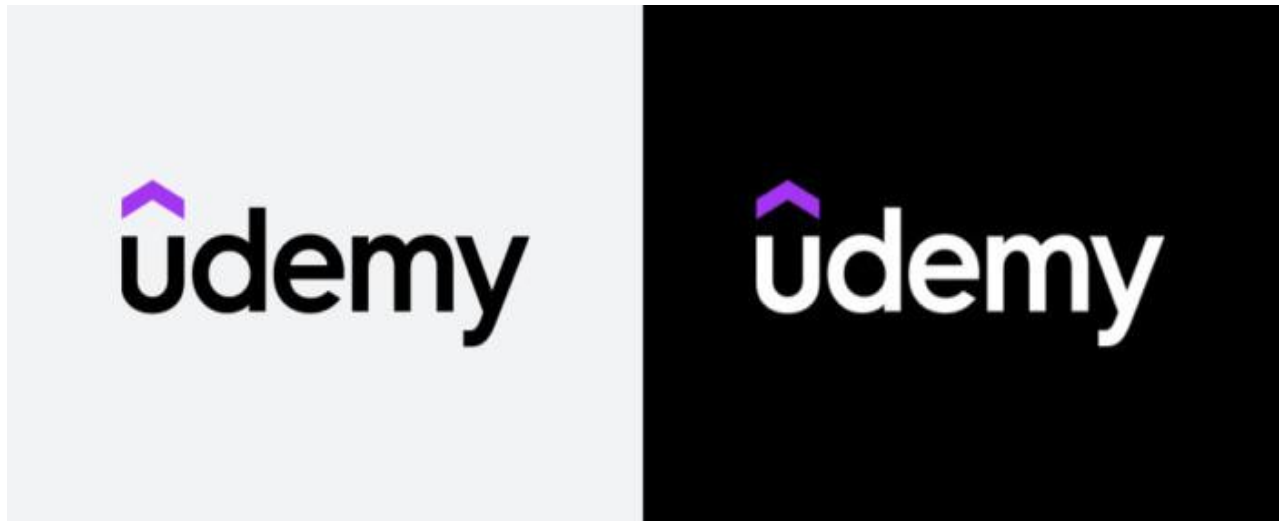
Signatures

**Examined by:**

**Head of Department**  
**(Signature and Seal)**

## ABOUT INDUSTRY

### UDEMY



Udemy, Inc. is a global destination for teaching and learning online. It was founded in May 2010 by Eren Bali, Gagan Biyani, and Oktay Caglar. As of July 2022, the platform has more than 54 million students, 204,000 courses, and 71,000 instructors teaching courses in over 75 languages.

Udemy is a massive open online course provider, and its learning experience arranges coursework into a series of modules and lessons that can include videos, text notes and assessment tests. Udemy's video player has functional features like closed captioning and note-taking functions.

Each Udemy course is created, owned and managed by the instructor(s). The foundation of each Udemy course are its lectures, which can include videos, slides, and text. In addition, instructors can add resources and various types of practice activities, as a way to enhance the learning experience of students.

I would say Udemy as a whole is really useful for obtaining new skills, and you could list those skills on your CV once you've completed your Udemy course.

Udemy is **a platform that allows instructors to build online courses on their preferred topics**. Using Udemy's course development tools, instructors can upload videos, source code for

developers, PowerPoint presentations, PDFs, audio, ZIP files and any other content that learners might find helpful.

Udemy is one of the best and most popular **online training websites**. It provides thousands of well-planned courses created by the best for everyone, from beginners to advanced learners

Udemy has **over 49 million users worldwide**. The Udemy eLearning platform offers access to more than 185K video courses. The lowest cost Udemy course is available for \$25. The Udemy platform has 64K instructors from around the world on staff and offers video courses in more than 75 languages

The builder provided with the system ensures that you can create your course content quickly and offer a legit learning experience to a wide selection of students. **Because Udemy allows anyone to publish a course, it's very easy to set up a Udemy account and start potentially earning income**

Once you purchase a course, **you'll have access for life**, provided that your account is in good standing and Udemy continues to have a license to that course

According to a new report from Udemy for Business, a learning and development platform, workers have been devouring virtual training courses that help them learn soft skills to better manage their mental health and wellness. The learning platform found that, between 2019 and 2020, the number of hours logged for courses that teach anxiety management alone jumped by nearly 4,000%. Demand for courses that teach people other soft skills including resilience and stress management also saw triple-digit growth.

Udemy for Business grew from \$1 million ARR to \$100 million in five years. Udemy for Business sells its services to companies so that they can better train their staff.

With the evolution of online learning libraries, it's easier than ever for learners to access content wherever and whenever they need it and for training professionals to ensure that the content learners are consuming is accurate and appropriate for their roles. Udemy for Business is ranked one of the top 20.

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## **ABSTRACT**

University Management System deals with the maintenance of University data, records, instructions, and students information within the University. UMS is an automation system, which is used to store the information, students record, and information of courses. Starting from registration of a new student in the college, it maintains all the details regarding the attendance and marks of the student. The project deals with the retrieval of information through an INTRANET based campus wide portal. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure Individual and overall performance of the students. Development process of the system starts with System analysis. System analysis involves creating a formal model of the problem to be solved by understanding requirements.

UNIVERSITY MANAGEMENT SYSTEM (UMS) deals with the maintenance of university, college, faculty, student information within the university. UMS has a relational database, which is used to store the college, faculty, student, courses and information of a college. Starting from registration of a new student in the college, it maintains all the details regarding the attendance and marks of the students. The project deals with retrieval of information through an intranet based campus wide portal. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure individual and overall performance of the students. The university management system is store and retrieve the information through web based application. So it collects the information of individual and overall performance of students in various departments. UMS focuses on the basic need of accomplishing the task of maintaining the large stock of information in a university by creating a database. The interface is a very efficient application for the management of a university which not only benefits the user of the university but also plays a major role in enabling the management of the university to work in a proficient manner. This system will be a platform where users will have access to the facilities of the university including blackboard from anywhere using the Internet. This project report will provide a detailed account of the functionalities of the user interface which is taken as a reference to manage a university. Each subsection of this phase report will feature the important functionalities of the database design

# **CHAPTER 1**

## **INTRODUCTION**

### **UNIVERSITY MANAGEMENT SYSTEM**

University [Management System](#) is developed in object oriented platform using C++ [programming language](#). It mainly maintains the list of colleges affiliated to the university and their different streams. Additionally, the project also maintains and handles the [examination](#) as well as the result [department](#) with a proper menu system.

The [source code](#) is in C++, and you can find it in the download file. The final year project report and documentation of this university [management system](#) project are complete and contains all the necessary documentation and screenshots of the system.

In the documentation folder, you can find files in .doc [format](#) for table of contents, project [flowchart](#), output screens, and all other necessary explanation of the project related to its introduction, objective, how the project works, drawbacks, testing, and many more.

In University, a large amount of [data](#) is processed and the results are used in running an organization. The University management system maintains the list of colleges and their different streams along with the [examination](#) and result department. There are menus and sub menus in the output of the project which has given this project an organized look.

University Management System is based on the concept of managing the student's record. It is a simple system, therefore, it does not contain a login system. The user can manage students record by adding, updating, removing, viewing and searching for details. This mini project contains limited features, but the essential one.

Talking about the features of the University Management System, the user can add records of the students easily. For that, the user has to provide registration number, name and branch name. Apart from this, the user can view/check a list of the records, search, modify and remove records

too. The user just has to provide a registration number or name in order to search for a student's record.

The system creates an external file to store the user's data permanently. This program mainly focuses on CRUD with the searching function. University Management System is developed using C++ Programming Language and different variables, strings have been used for the development of it. University Management System in C++ Programming with source code is free to download. Use for educational purposes only! This project provides the simplest system for easy management of student records.

To maintain the record of colleges, students, examination and result, the university management department prepares the record for each department, showing the total number of colleges and students. It also keeps track of any modification necessary related to students and colleges, and produces regular reports for the organization giving the total information required.

The university data file of this university management system project contains the following:

- ❖ **Student Information System:** In this section, the project keeps the record of Admission Details Grading System & Placement cell etc in the records of the university data file.
- ❖ **Library Management System:** In this section, the university management system keeps the [record of student](#), Staff & Books and others relevant data.
- ❖ **Faculty Section:** In this section, the university management system keeps the records of Faculty teaching in university, Subjects taught by the professor, no of sections etc and some other relevant data .

The project is developed using the class concepts of C++ programming language, and a number of user defined header files are used as well. Many data functions can be found in the project through which any one can know about any student ,Faculty & Library books by providing the respective name of student or Roll number.

**University Management System project is a desktop application which is developed in C/C++ platform.** This C/C++ project with tutorial and guide for developing a code. University Management System is a **open source** you can **Download zip** and edit as per you need. . Also you can modified this system as per your requirement and develop a perfect advance level project.

## **PURPOSE OF THE SYSTEM**

University Management System deals with the maintenance of university, faculty, student information within the university. This project of University Management System involved the automation of student information that can be implemented in different Sections. The project deals with retrieval of information through an interface or campus wide portal using database. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure individual and overall grade performance of the students.

## **COMPUTERIZED UNIVERSITY MANAGEMENT SYSTEM**

Man is a social animal and has endless wants and needs. The days of the primitive man are gone. Gone too are the days when survival meant just food, clothing and shelter. Technology has changed the ways we live. The invention of currency has ushered in a new breed of humans. Most business transactions are clinched by fiscal exchanges.

To sustain them, people put in hours of work .The average adult spends approximately one-third of his or her life working. Business is booming. A considerable portion of the expenditure of the business is on the compensation given to its employees. Therefore it becomes necessary for an organization to maintain perfect and accurate record. For this we need a computerized university management system.

Perfect ness is the key to work. It is very important from the point of view of the organization as well as for the student that the record is maintained about the colleges and students error free. So, speedier and accurate maintenance of the university becomes a matter of importance. Automation does this to a large extent.

As we know that today is the world of computers and it has entered in the each and every phase of everyday life. Computer plays an important role in day-to-day work. Hence today is the day of computers.

The use of computers in the field of management of information is well known to us .The use of computers in the university management system provides following benefits over manual system

❖ **Availability**

It gives us that information which was not provided by the manual system.

❖ **Timeliness**

Provides information (output) in less time.

❖ **Accuracy**

Using computer, we will get the information more accurate rather than the manually calculated and manual records information.

❖ **Completeness**

Computer never gives us incomplete information. We will always get the complete and full information using the computer.

### ❖ **Meaningful and action oriented**

Whatever the work we will provide the computer to do, computer works on only that particular work. It means computer always do a meaningful and action oriented work for the user.

### ❖ **Commensurate**

Whatever the format (output) is designed for a particular program by the computer should be in such a manner that co-relates with the format of other information groups.

“A University Management System handles all information necessary for handling a college and student.” This system must develop the paperwork necessary college and the students. The system must maintains files on individual college and student record, provide up to date the information, print outputs on information related to the University.

The University management system processes data related with activities of students and colleges. So university management system is very important for a university. Needless to say, careful planning and suitable backup measures are absolutely necessary when automating these activities. During the selection process, it is worthwhile to review our present universities policies.

Improve benefits over before talking the whole questions of automating the process.

A good university management system will process input data faster and reduce clerical time, while:

- Assuring management control in making certain that output is correct.
- Generally useful reports at little or no incremental cost.
- Project is handled with oops concept.

## **MAIN GOAL OF THE PROJECT**

The main goal of the project is to obtain the complete and correct information. Because University management department of an organization maintains a record of:

- The Colleges
- The Students
- The Examination & Result
- Prepares the record for each department, showing the total number of student and colleges.
- Keeps track of any modification necessary related to the students and colleges.
- Produces regular reports for the Organization giving the total information required.

Management needs to know details like department – number of colleges, their streams, the degree courses run by them and location. Management also needs to know the same information about the students.

## **OBJECTIVES OF THE SYSTEM**

The main objective of the College Management System is **to Manage the records of the Students**. It manages all the information about Student, Session, Grades, Faculty. The project is totally built at administrative end and thus only the administrator is guaranteed the access..

A good university management system **ensures improved academic delivery, working efficiency and better student achievements**. It provides several benefits for candidates, staff and the organization.

## **PROJECT CATEGORY**

Category of this project will be “Object Oriented Programming System”. Object oriented technologies leads to reuse leads to faster software development and higher quality programs.



## **MOTIVATION**

- In today's time, it is very difficult to maintain the records of thousands of students manually.
- Moreover Finding each & every small details related to Students and Faculties Of Different Departments in a University is not at all an easy task.
- So we designed this system which makes the work of an administrator easier and faster.

## **MINIMUM CONFIGURATION**

### **❖ Software's**

- Dev C++
- Code: :Blocks

### **❖ Hardware's**

- PC
- 2GB or more than 2GB Ram is sufficient.

## **ADVANTAGES OF THE EXISTING SYSTEM**

- Less time consuming.
- Less paper Work.
- Reports Generation can be done easily.
- Query can be done easily

### **It does not required expert hand.**

- It is fully user friendly.
- Faster Access of information.

## **DISADVANTAGES OF THE EXISTING SYSTEM**

- Time Consuming.
- Less Data Security.
- More paper works are to be done.

## **APPLICATIONS OF PROJECT**

It can be implemented in each and every university in which access can be given to all the students and faculties

This could help them to be updated with all the information regarding academics and fees / salaries etc.

Instead of finding receipts of fee or salary, which may take hours, now it could be easily generated with fraction of seconds.

## **FLOWCHARTS**

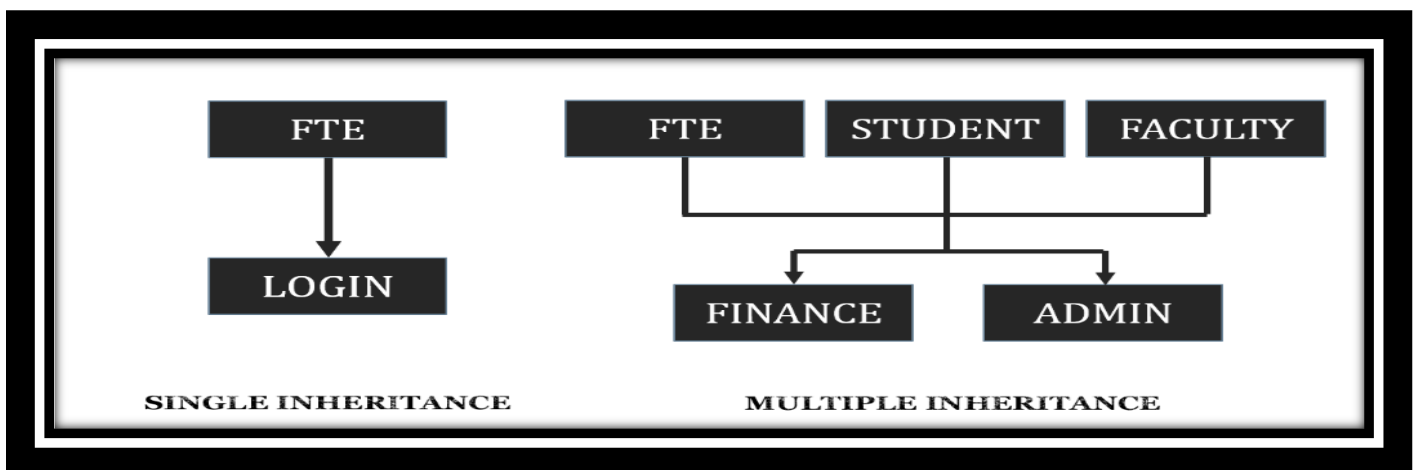


FIGURE 1.1 FTE LOGIN

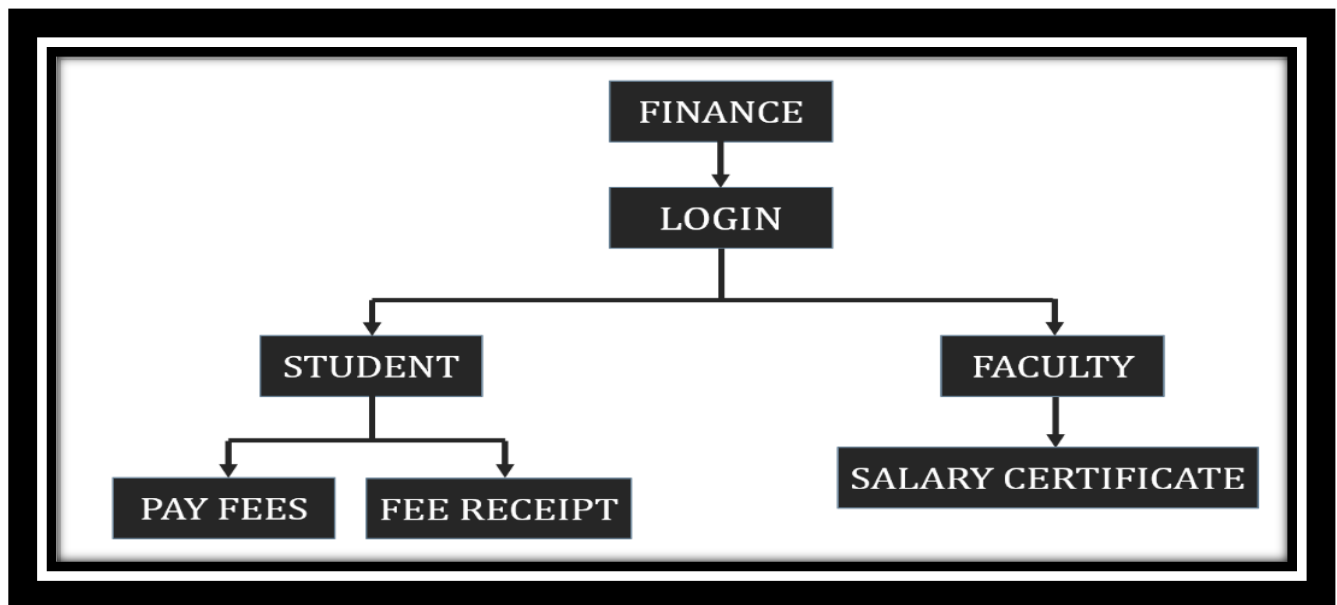


FIGURE 1.2 FINANCE LOGIN

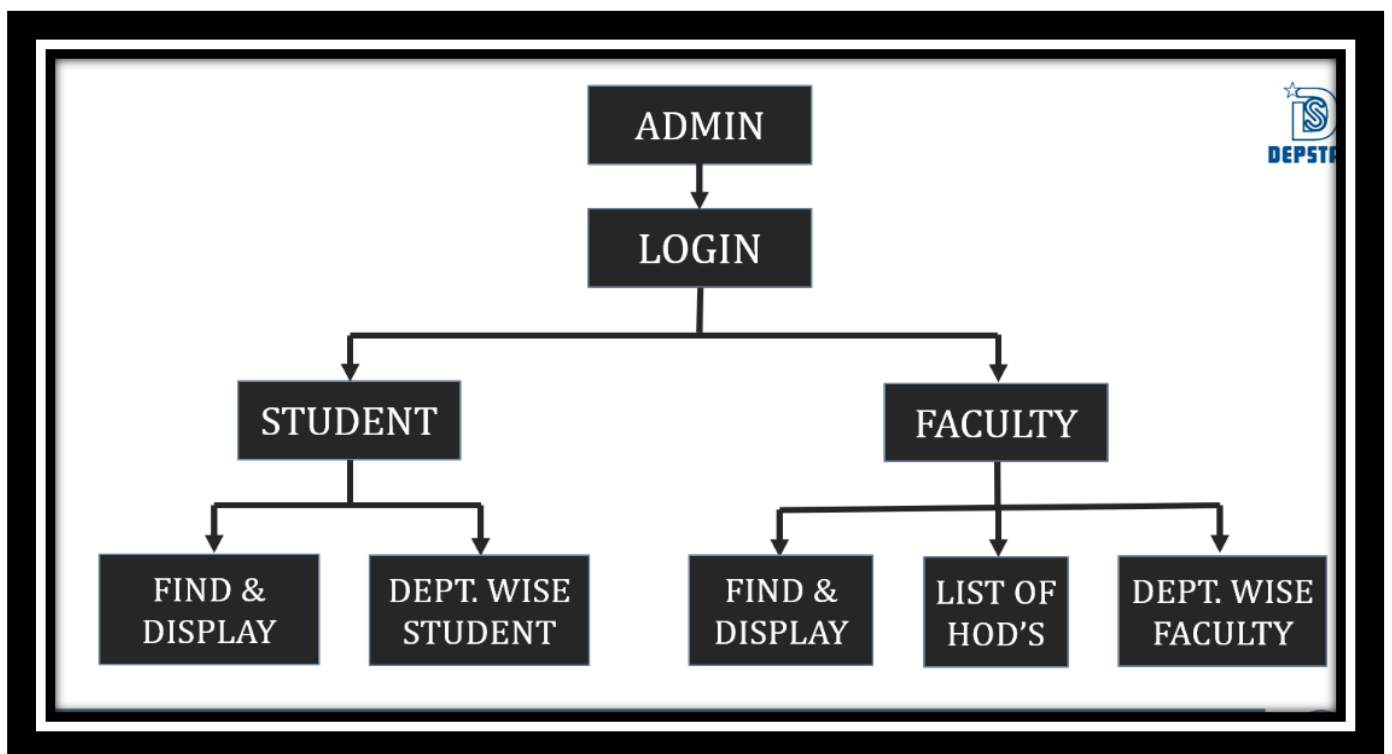


FIGURE 1.3 ADMIN LOGIN

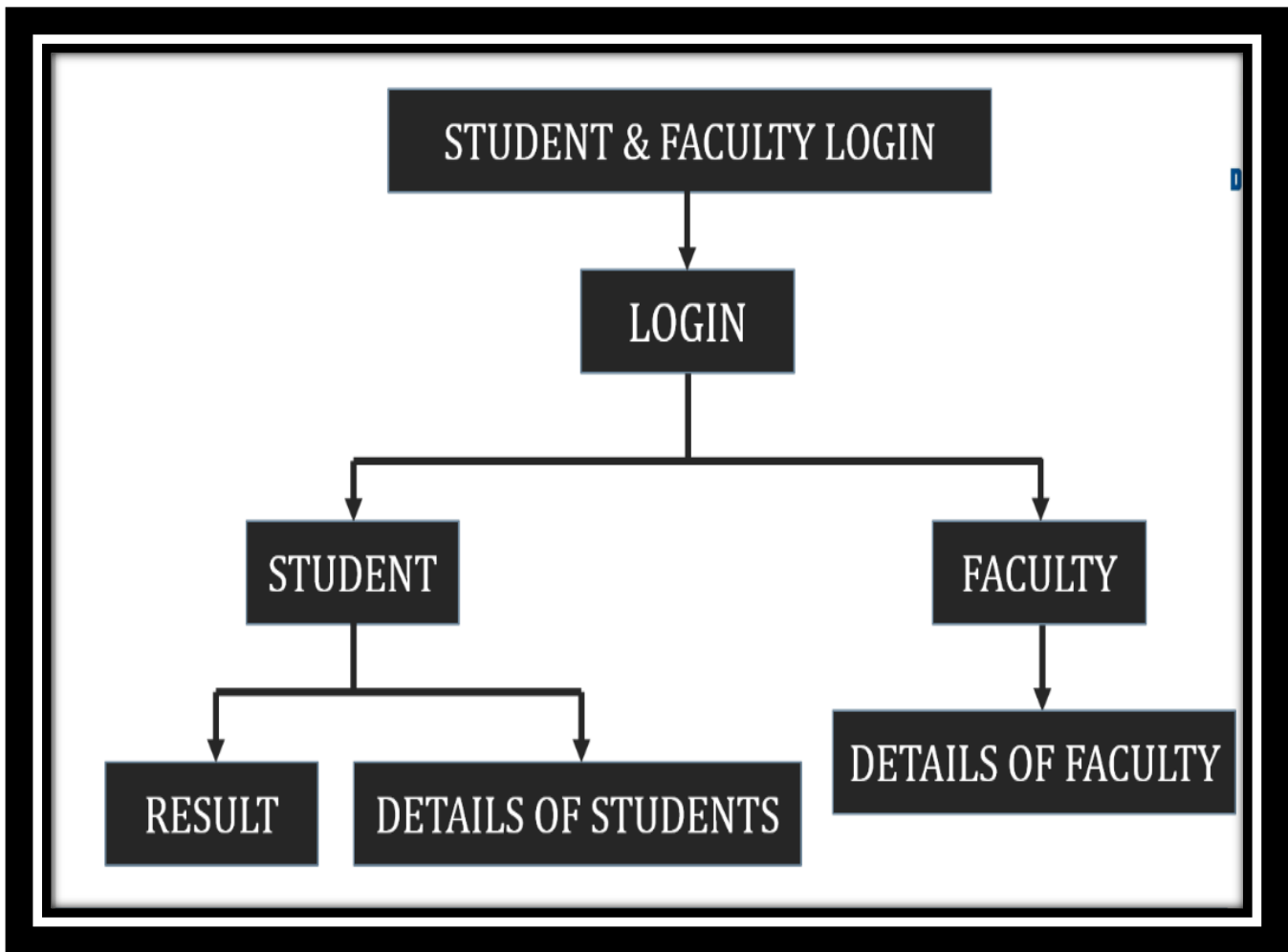


FIGURE 1.4 STUDENT & FACULTY LOGIN

## **CHAPTER 2**

### **TOOLS & TECHNOLOGY USED IN THE PROJECT**

#### **C++:**

C++ (pronounced "C plus plus") is a [general-purpose programming language](#) created by Danish computer scientist [Bjarne Stroustrup](#) as an extension of the [C programming language](#), or "C with [Classes](#)". The language has expanded significantly over time, and modern C++ now has [object-oriented](#), [generic](#), and [functional](#) features in addition to facilities for [low-level memory](#) manipulation. It is almost always implemented as a [compiled language](#), and many vendors provide [C++ compilers](#), including the [Free Software Foundation](#), [LLVM](#), [Microsoft](#), [Intel](#), [Embarcadero](#), [Oracle](#), and [IBM](#), so it is available on many platforms.

C++ was designed with [systems programming](#) and [embedded](#), resource-constrained software and large systems in mind, with [performance](#), efficiency, and flexibility of use as its design highlights. C++ has also been found useful in many other contexts, with key strengths being software infrastructure and resource-constrained applications, including [desktop applications](#), [video games](#), [servers](#) (e.g. [e-commerce](#), [web search](#), or [databases](#)), and performance-critical applications (e.g. [telephone switches](#) or [space probes](#)).

C++ is standardized by the [International Organization for Standardization](#) (ISO), with the latest standard version ratified and published by ISO in December 2020 as [ISO/IEC 14882:2020](#) (informally known as [C++20](#)). The C++ programming language was initially standardized in 1998 as *ISO/IEC 14882:1998*, which was then amended by the [C++03](#), [C++11](#), [C++14](#), and [C++17](#) standards. The current [C++20](#) standard supersedes these with new features and an enlarged [standard library](#). Before the initial standardization in 1998, C++ was developed by Stroustrup at [Bell Labs](#) since 1979 as an extension of the [C language](#); he wanted an efficient and flexible language similar to C that also provided [high-level features](#) for program organization. Since 2012, C++ has been on a three-year release schedule with [C++23](#) as the next planned standard.

## **WHY USING C++ AS A LANGUAGE FOR MY PROJECT**

I have used C++ Language in my Project “ University Management Project”.As Most of ‘90’s computer science graduates have started their lives programming with C. If we see properly, the introduction of modern-day programming concepts to C defined the modern programming language of C++. C++ is used in the production of many of the modern-day popular software that we use every day. Even a portion of many of the modern-day operating systems has been built using C++. Guess what? Even modern-day compilers and interpreters for other programming languages like Java, Python, and even JavaScript are built using C++! It’s almost the perfect language to start with if you want to get into programming, or if you simply want to add a versatile language to your skillset. According to the [reports by TIOBE](#), C++ ranks in 4th position to be the most used programming language in 2021.

There are many reasons for starting with a language as versatile as C++.

- C++ has the advantage of having access to the Standard Template Library (STL). As we already know, libraries are nothing but large collections of compiled code. The STL has access to definitions for standard data structures like a linked list, queue, stack, and so on.
- C++ has the big advantage of offering features to flexibly work with memory allocation and de-allocation effectively. This makes it usable in a large number of software programs like browsers, word processors, spreadsheets, and even operating systems.
- C++ is very close to the hardware while having modern-day features which is an improvement over its predecessor, C. This allows C++ to be used even in the making of compilers and interpreters. JavaScript’s V8 engine (which compiles JavaScript behind the hood in browsers), the Python IDLE interpreter as well as the Java interpreter – the Java Virtual Machine – are all made using C++.
- C++’s familiarity with the hardware has widespread applications in embedded system software as well. This allows it to be used in security cameras, smartwatches, drones, etc.
- C++ has one of the largest and friendliest communities around the globe.

Developments in software technology continue to be dynamic. New tools and techniques are announced in quick succession. This has forced the software engineers and industry to

continuously look for new approaches to software design and development, and they are becoming more and more critical in view of the increasing complexity of software systems as well as the highly competitive nature of the industry.

These rapid advances appear to have created a situation of crisis within the industry. The following issues need to be addressed to face this crisis:

- How to represent real-life entities of problems in system design?
- How to design systems with open interfaces?
- How to ensure reusability and extensibility of modules?
- How to develop modules that are tolerant to any changes in future?
- How to improve software productivity and decrease software cost?
- How to improve the quality of service?
- How to manage time schedules?
- How to industrialize the software development process?

Many software products are either not finished, or not used, or else are delivered with major errors.

To reduce such errors software technology evolution gradually increases. Since,

The invention of the computer, many programming approaches has been tried. These include techniques such as modular programming and structured programming .

## **OBJECT ORIENTED PROGRAMMING**

The major motivating factor in the invention of object-oriented approach is to remove some of the flaws encountered in the procedural approach. OOP treats data as a critical element in the program development and does not allow it to flow freely around the system. It ties data

more closely to the functions that operate on it and protects it from accidental modification from outside functions.

Object – oriented programming is the most recent concept among programming paradigms. We define “object-oriented programming as an approach that provides a way of modularize problems by creating partitioned memory area for both data and functions that can be used as templates for creating copies of such modules on demand.

### **CHARASTICES OF OOPS IN C++ LANGUAGE**

1. **Object:** Objects are entities, which can exist individually. It has its own properties and methods, where properties define the outlook of the object and methods define their procedures.
2. **Class:** It is a template used to define different objects of same type.
3. **Encapsulation:** The data and the methods, which operate on the data, are combined and placed in a group, this phenomenon is known as encapsulation, and the group is known as the object.
4. **Abstraction:** It means hiding of the data of one object of a class from another object of the same class.
5. **Inheritance:** Inheritance is the property by which an existing class can be used to create new classes, by deriving all the properties and methods of the old class to the new class and also adding new properties /methods in the new class. The old class is known as a base class or super class. The new class is known as derived class or sub class.
- 6 **Polymorphism:** Polymorphism means “One interface and multiple methods” i.e. one interface can be used to provide different functionalities.

There are two kinds of polymorphism:



- a) **Compile time polymorphism:** It is also known as early binding, as the interfaces are bind with their methods at compile time. It is accomplished using function overloading and operator overloading.
- b) **Run time polymorphism:** It is also known as late binding. In run time polymorphism the interface and its method bind at the time of execution. It is accomplished using virtual function.

**7. Multiple Inheritance:** When two or more classes are used to define a single class, then it is known as multiple inheritance.

## **BENEFITS OF OOPS IN C++**

Object oriented contributes to solution of many problems associated with the development quality of software products. The new technology promises greater programmer productivity, better quality of software and lesser maintenance cost. The principal advantages are:

- Through inheritance, we can eliminate redundant code and extend the use of existing classes.
- We can build programs from the standard working modules that communicate with one another rather than having to start writing the code from scratch. This leads to saving of development time and higher productivity.
- The principle of data hiding helps the programmer to build secure programs that cannot be invaded by code in other parts of the program
- It is possible to have map objects in the problem domain to those in the program.
- It is easy to partition the work in a project based on objects.
- The data centered design approach enables us to capture more details of a model in implemental form,
- Object-oriented systems can be easily upgraded from small to large systems.
- Message passing techniques for communication between objects make the interface descriptions with external systems much simpler.
- Software complexity can be easily managed.

## **ADVANTAGES OF C++ LANGUAGE**

- C++ is a highly portable language and is often the language of selection for multi-device, multi-platform app development.
- C++ is an object-oriented programming language and includes concepts like classes, inheritance, polymorphism, data abstraction, and encapsulation which allow code reusability and makes programs very maintainable.
- C++ use multi-paradigm programming. The Paradigm means the style of programming . paradigm concerned about logics, structure, and procedure of the program. C++ Is multi-paradigm means it follows three paradigm Generic, Imperative, Object Oriented.
- It is useful for the low-level programming language and very efficient for general purpose.
- C++ gives the user complete control over memory management. This can be seen both as an advantage and a disadvantage as this increases the responsibility of the user to manage memory rather than it being managed by the Garbage collector.
- The wide range of applications – From GUI applications to 3D graphics for games to real-time mathematical simulations, C++ is everywhere.
- C++ has a huge community around it. Community size is important, because the larger a programming language community is, the more support you would be likely to get. C++ is the 6th most used and followed tag on StackOverflow and GitHub.
- C++ has a very big job market as it is used in various industries like finance, app development, game development, Virtual reality, etc.
- C++'s greatest strength is how scalable it could be, so apps that are very resource intensive are usually built with it. As a statically written language, C++ is usually more performant than the dynamically written languages because the code is type-checked before it is executed.
- Compatibility with C – C++ is compatible with C and virtually every valid C program is a valid C++ program.

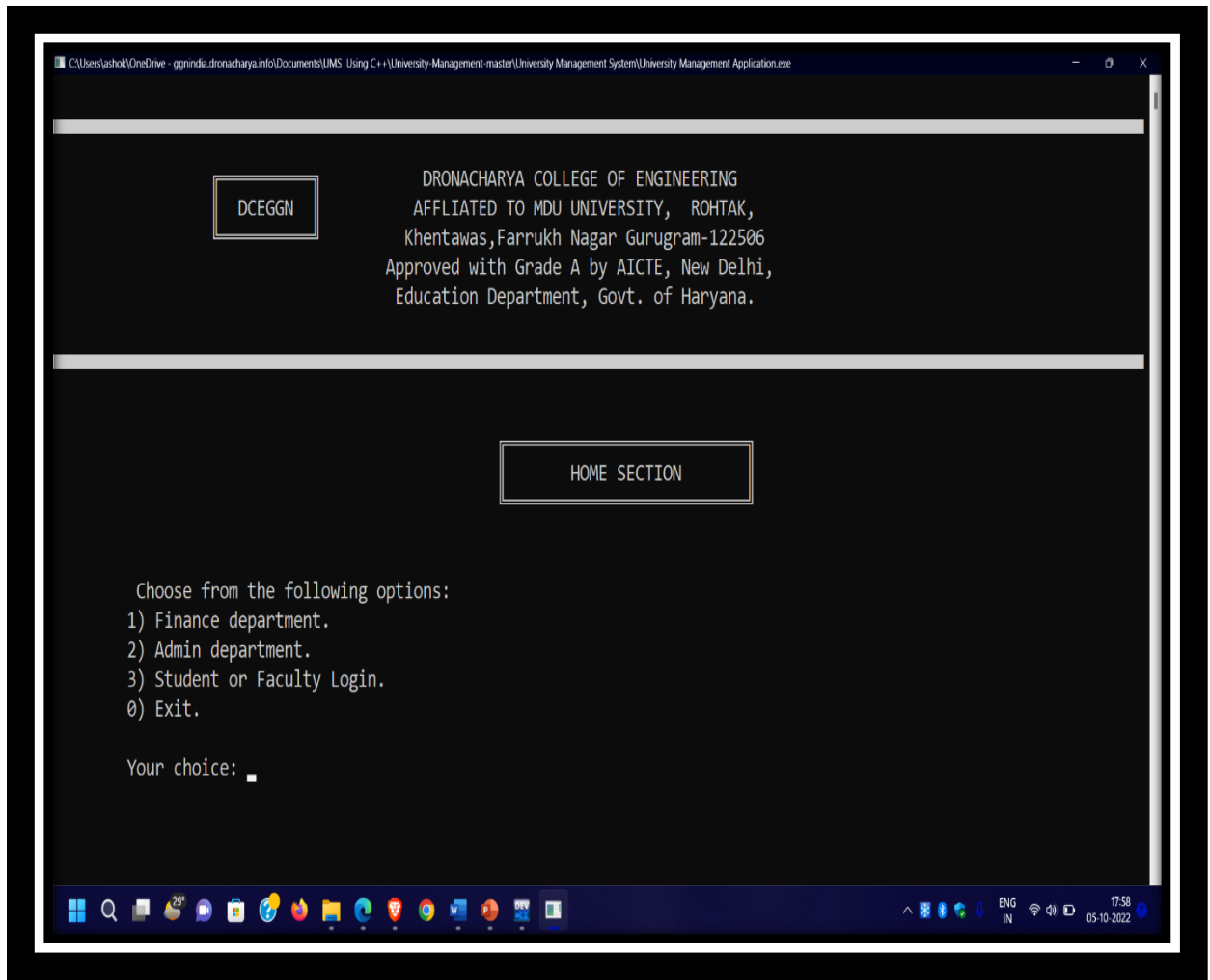
## **DISADVANTAGES OF C++ LANGUAGE**

- One major problem in C++ is when the info points to an equivalent thing from two different starting points, this causes a serious problem, the C++ program will still have involved problems within the coding.
- Java's uni-code to the ASCII rules is 16-bit, while C++ program is 8-bit only, So, C++ may be a less impressive programming language but saves the memory.
- C++ program is complex during a very large high-level program, C++ is employed for platform-specific application commonly, For the actual OS or platform, the library set is typically chosen.
- C++ program can't support garbage pickup, It's not secure because it's a [pointer](#), [friend function](#), and global variable and it's no support for [threads](#) built-in.
- C++ programs are often heavy if it's not careful, C++ program allows classes and thus the functions with an equivalent name and [overloaded functions](#) thus the symbol mangling system must be used, It can easily be wrapped in C functions though.
- C++ program has no notion of being fast and it's not used for platform-dependent apps any longer than C or anything is. Actually, given the character of the toolchain, it's probably less dependent than others. Complex in a very large high-level program.
- It is used for platform-specific applications commonly.
- For a specific OS or platform, the library set is typically chosen that locks

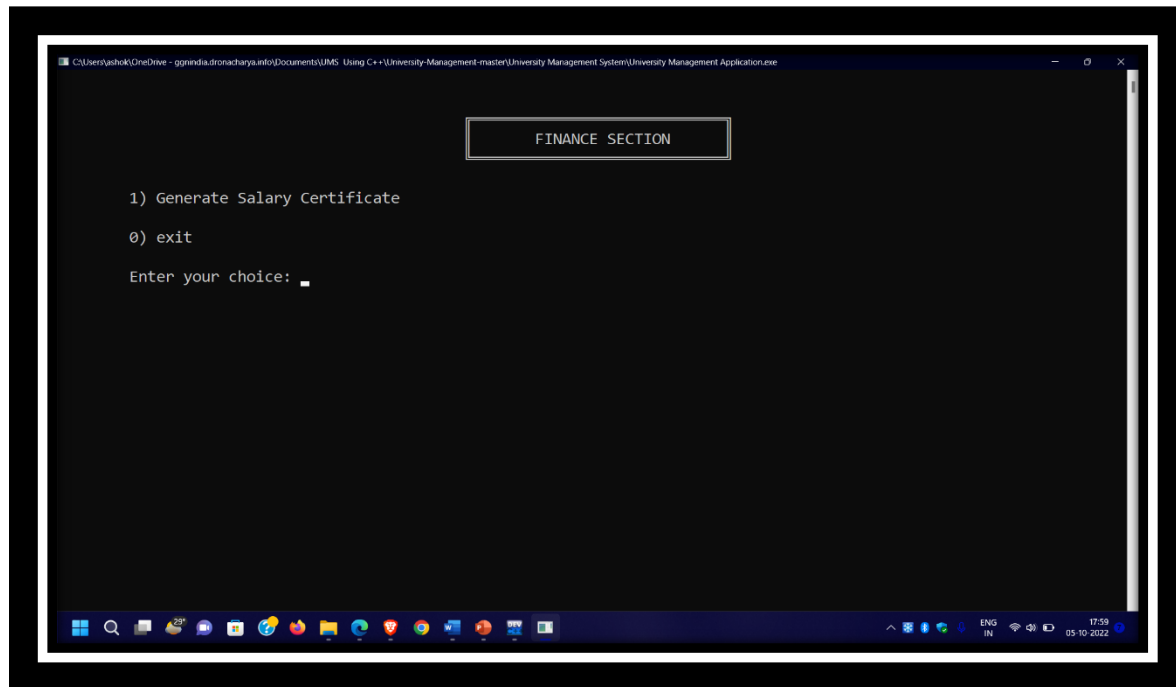
## CHAPTER -3

### SNAPSHOTS

#### ❖ FRONT PAGE OF THE SYSTEM



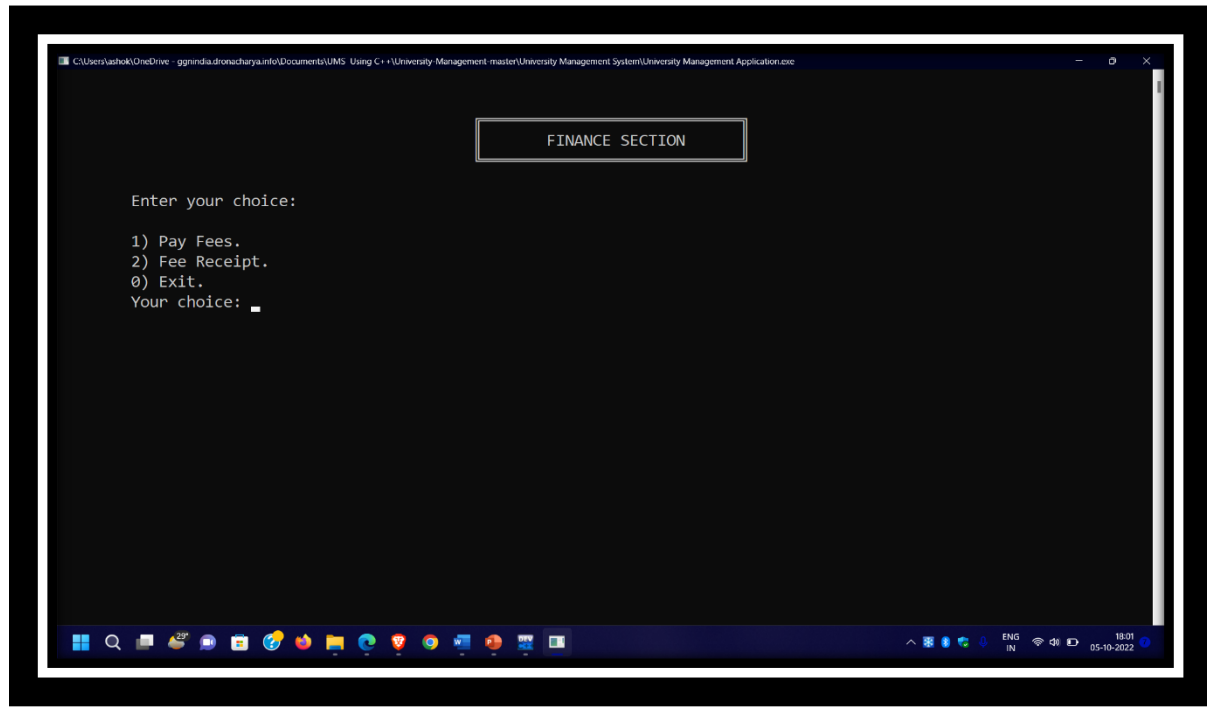
## ❖ FINANCE SECTION OF FACULTY



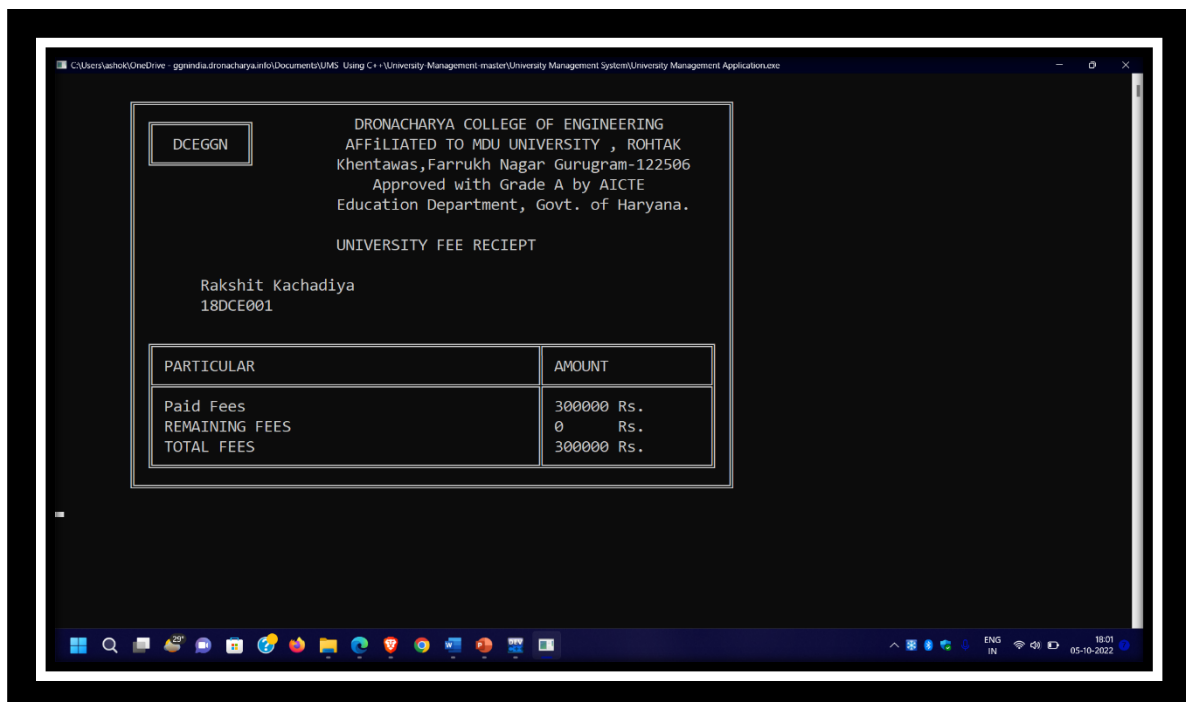
## ❖ SALARY CERTIFICATE OF FACULTY



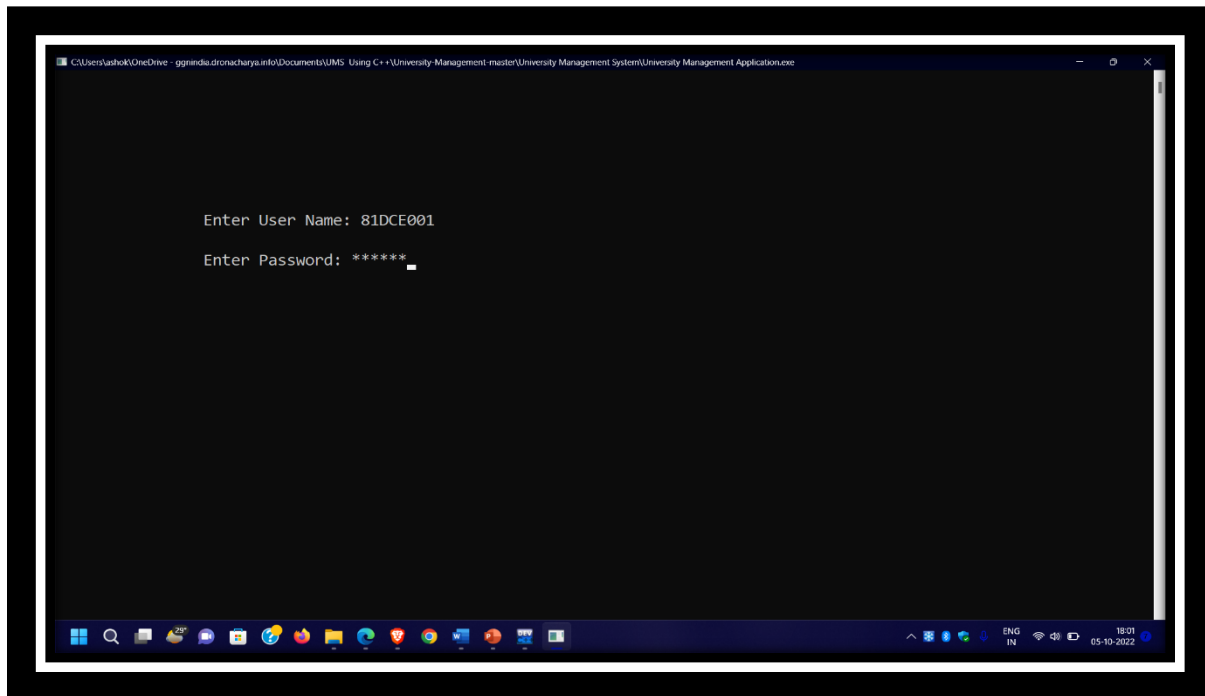
## ❖ FINANCE SECTION OF STUDENTS



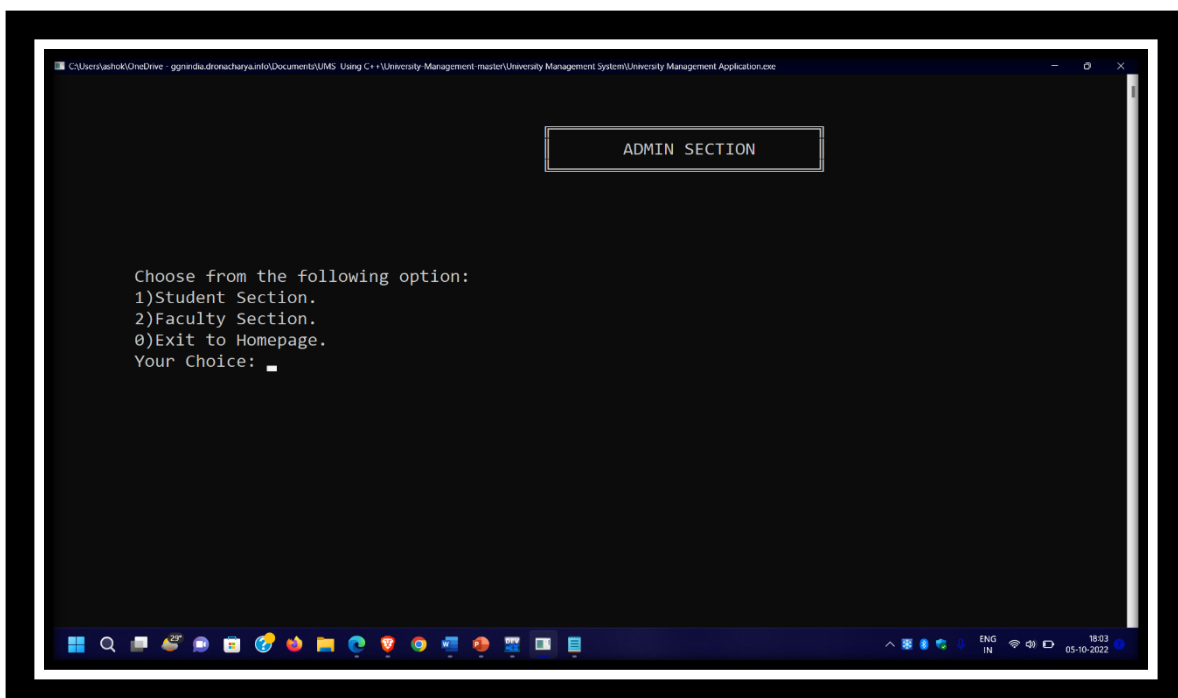
## ❖ STUDENTS FEE RECEIPT



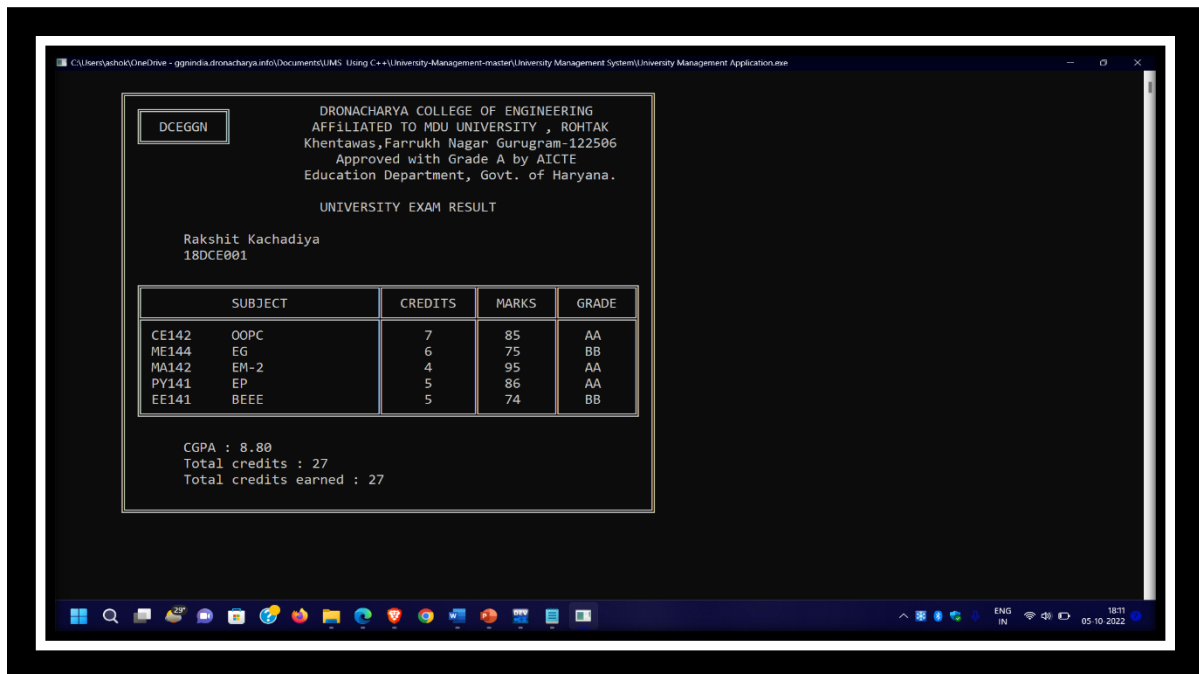
## ❖ LOGIN & PASSWORD SECTION



## ❖ ADMIN SECTION



## ❖ STUDENT UNIVERSITY RESULT



NOW PLEASE RUN MY APPLICATION IN ORDER TO

KNOW MORE ABOUT MY APPLICATION



## **CHAPTER-4**

### **DEV C++ SOFTWARE**



**FIGURE 4.1 DEV SOFTWARE**

#### **DEV C++**

- ❖ Dev-C++ is a fully featured graphical IDE (Integrated Development Environment) that uses the MinGw compiler system to create Windows as well as Console based C/C++ applications. It can also be used with any other GCC-based compiler like Cygwin.
- ❖ Dev-C++ is free software and is distributed under the GNU General Public License. Thus we can distribute or modify the IDE freely. It was originally developed by “Bloodshed Software”. It has been forked by Orwell after it was abandoned by Bloodshed in 2006.
- ❖ Dev C++ is a complete IDE for the C++ language.
- ❖ The IDE uses a MinGW port of GCC (GNU Compiler Collection) as its compiler. MinGW is a minimalist approach to write executables for Windows systems.

- ❖ Dev C++ is also usable with Cygwin or any other GCC-based compiler. It was first built in Delphi and was upgraded using Delphi's latest version.
- ❖ Millions of users have used Dev C++ since the first version was released back in 1998 by Bloodshed Software. Having been around for over 20 years, the IDE remains a popular learning tool for universities worldwide.
- ❖ Bloodshed abandoned Dev C++ in 2006 when the team no longer had the time to support it. The software was picked back up in 2010 by Johan Mes, an independent programmer who goes by the name Orwell. After 10 years of working on the IDE,
- ❖ Orwell stepped away from the project. U.S. software company, Embarcadero Technologies, subsequently began sponsoring the IDE and now maintains it.
- ❖ In addition to being fully functional with C++, Dev C++ also works flawlessly with C. Currently, the Dev C++ IDE is only available on the Windows 7, 8.1 and 10 operating systems.
- ❖ Dev-C++ is a [free](#) full-featured [integrated development environment](#) (IDE) distributed under the [GNU General Public License](#) for programming in [C](#) and [C++](#). It was originally developed by Colin Laplace and first released in 1998. It is written in [Delphi](#).
- ❖ It is bundled with, and uses, the [MinGW](#) or [TDM-GCC](#) 64bit port of the [GCC](#) as its [compiler](#). Dev-C++ can also be used in combination with [Cygwin](#) or any other [GCC](#)-based compiler.

## **ALTERNATIVES OF DEV C++**

- ❖ Millions have used Dev C++ over the years, and it's kept up-to-date with a modern user interface and style customization options. One of the more notable uses of Dev C++ is
- ❖ current Singapore Prime Minister Lee Hsien Loong, who used Dev C++ to create a Sudoku solver program.
- ❖ Should Dev C++ not end up being your cup of tea, worry not. At Udacity, we've compiled a list of some of the [best IDEs for C++](#) that you can also try out.

## ❖ **FEATURES OF DEV C++ IDE**

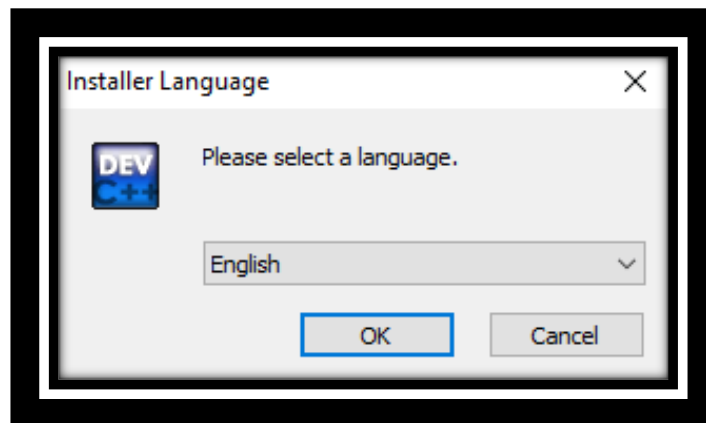
- ❖ Dev-C++ supports GCC-based compilers including Cygwin, MinGW, etc. We can either install a dev-C++ IDE along with the compiler integrated or just an IDE if we already have a compiler on our system.
- ❖ We can use integrated debugging (using GDB) with this IDE. The debugger allows us to perform all the general debugging operations on source code.
- ❖ It has a localization feature that provides support for multiple languages. We can select the language the first time when we open the IDE after installing it. We can also change the language anytime using settings.
- ❖ Like the other IDEs, this IDE also provides the “Auto-Completion” feature for the code we write.
- ❖ It comes with customizable syntax highlighting editor that can make the source code more readable.
- ❖ Allows to Edit and compile the Resource files.
- ❖ Has a Tool Manager that contains various tools that can be used in the project.
- ❖ This IDE also has inbuilt Find and replace facilities.
- ❖ Using Dev-C++ IDE, we can create various types of applications be it Windows, Console, Static libraries or DLLs.
- ❖ We can also create our own project templates to create our own project types.
- ❖ Makefiles that are used for managing the build process for the application can also be created using dev-C++ IDE.
- ❖ It provides support for Class Browser as well as Debug variable Browser.
- ❖ It has a Project Manager that helps us to manage various projects.
- ❖ Also provides print support through its interface.
- ❖ We can easily install the add-on libraries using the package manager provided by the IDE.
- ❖ This C++ IDE also provides CVS support for source code management

## INSTALLING AND CONFIGURING C++ IDE

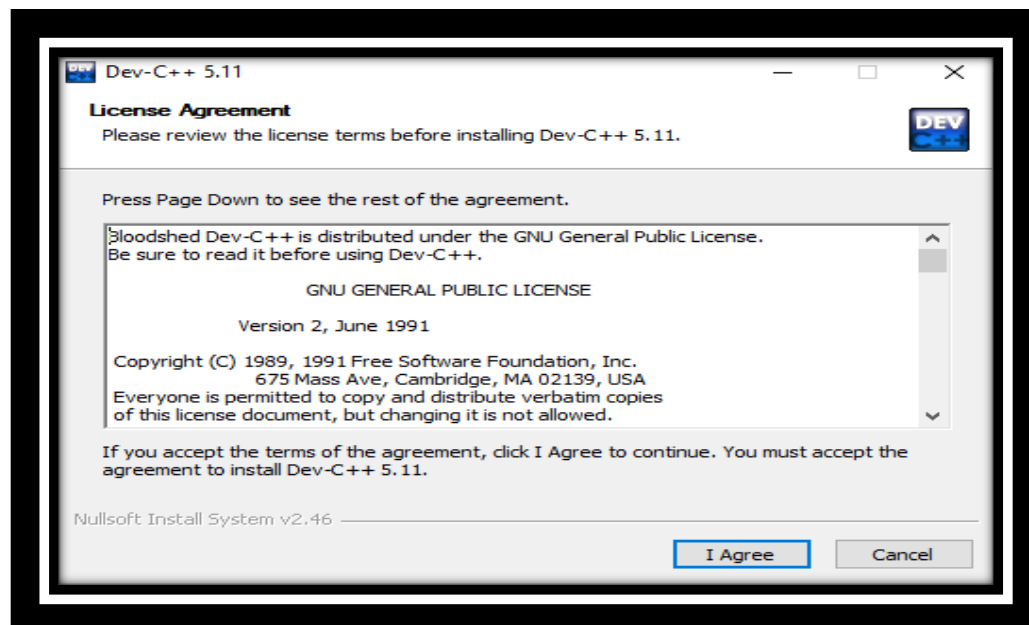
Let's see the entire installation process now. We have used the installable that comes along with the [C++ compiler](#). In this tutorial, we use the dev-C++ version 5.11 with the TDM-GCC 4.9.2 compiler.

The stepwise installation for dev-C++ is given below.

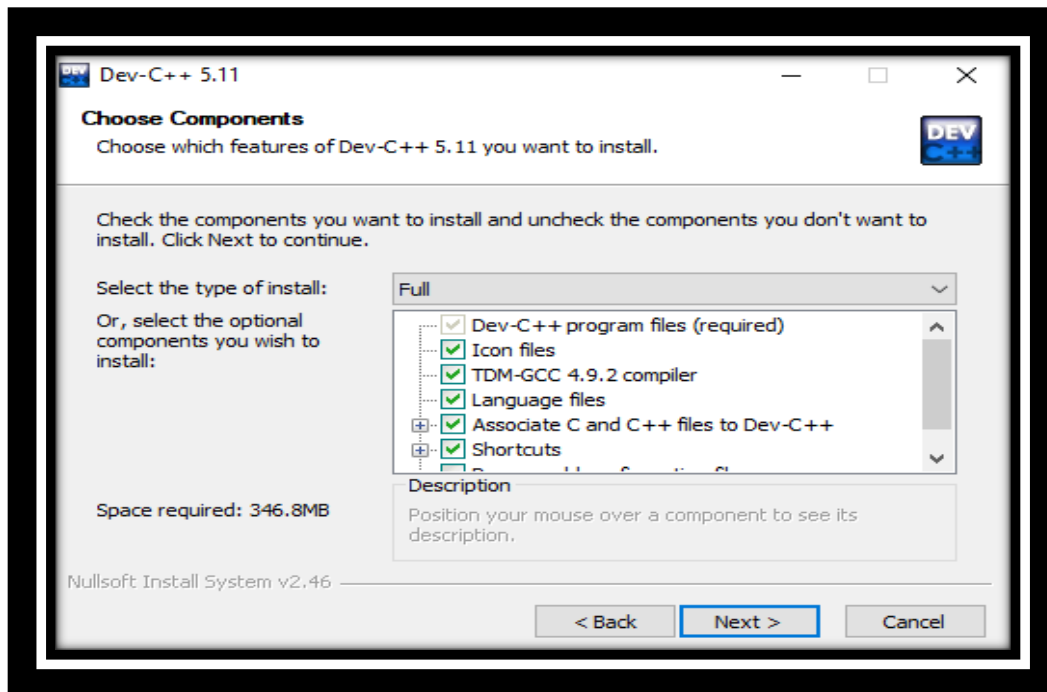
The first step while we start the installer is to select the language of our choice as shown in the below screenshot



Once you select the appropriate language, you have to agree to the license agreement that pops up next.

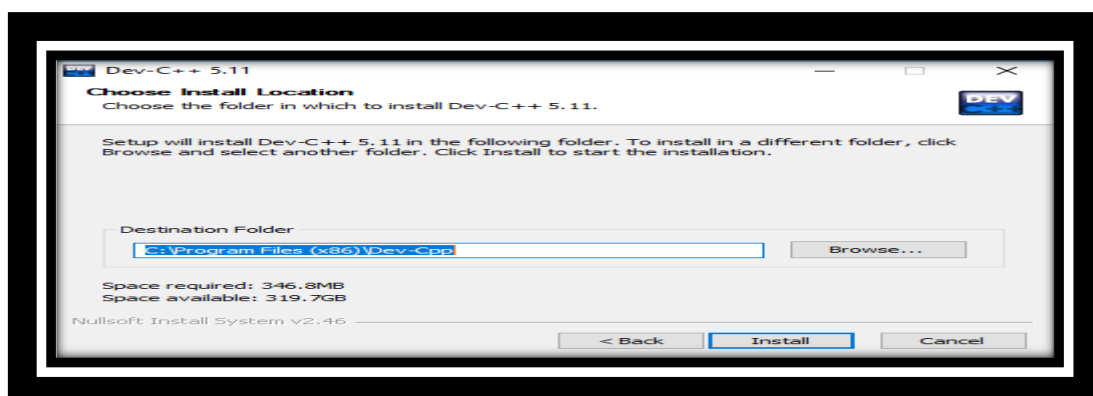


Next, we are asked to select the components that we need to install as a part of the dev-C++ installation



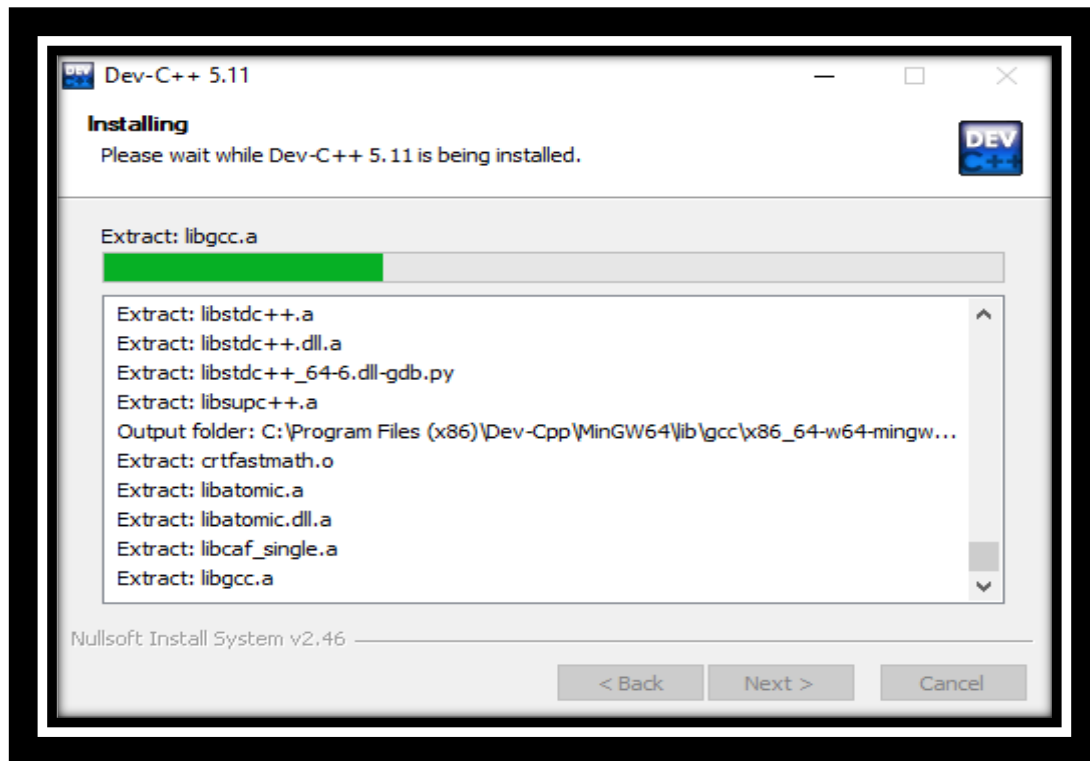
As shown in the above screenshot, we are provided with a list of components available for installation and a checkbox against each component. We can check/uncheck each box to indicate which components to install. Click next once the components are selected.

Now the installer prompts the user for the destination folder where the dev-C++ files/libraries etc. are to be copied



Once we provide the destination folder path, click on Install.

The following screenshot shows the progress of the installation.



Once the installation is over, a “finish” dialog that signals the end of the installation appears. We click finish and then we can launch the dev-C++ IDE.

## **CHAPTER 5**

### **Results and Discussions**

Download the Files in the same folder and Then Compile and run.

Tested in Dev C++.

The Student Section is Completed with Student Details & Grading System.

The Library Section Is Completed With staff and student records and books records

Create different branches when uploading.

Storing and accessing the data in the form of Excel sheets and account books is a tedious work. It requires a lot of laborious work. It may often yield undesired results. Maintaining these records as piles may turn out to be a costlier task than any other of the colleges and institutions.

Present System is time-consuming and also results in lack of getting inefficient results. Some of the risks involved in the present system can be as follows: During the entrance of marks and attendance, if any mistake is done at a point, then this becomes cumulative and leads to adverse consequences. If there is any need to retrieve results it may seem to be difficult to search.

The university management system improves the institution's work organization and decreases the amount of paperwork that wastes time. If you wish to enroll in a university, you must first register in the system and obtain all of the essential information.

The goal of this research was to create a university management project system that would aid in the maintenance of university records. Creating strategies for efficient management and handling of a task in every university. The university management system project includes features that allow for quick access to donor records gathered across the country. That ends our elaboration on University Management System Project Report and documentation. Hope you've caught all the ideas provided in the university management system project abstract, modules, documentation (PDF & PPT), and Source Codes. Check out our related articles!

University Management System (UMS) deals with the maintenance of university, college, faculty, student information within the university. UMS has a relational database, which is used to store the college, faculty, student, courses and information of a college. Starting from registration of a new student in the college, it maintains all the details regarding the attendance and marks of the students. The project deals with retrieval of information through an intranet based campus wide portal. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure individual and overall performance of the students. The university management system is store and retrieve the information through web based application. So it collects the information of individual and overall performance of students in various departments. UMS focuses on the basic need of accomplishing the task of maintaining the large stock of information in a university by creating a database. The interface is a very efficient application for the management of a university which not only benefits the user of the university but also plays a major role in enabling the management of the university to work in a proficient manner. This system will be a platform where users will have access to the facilities of the university including blackboard from anywhere using the Internet. This project report will provide a detailed account of the functionalities of the user interface which is taken as a reference to manage a university. Each subsection of this phase report will feature the important functionalities of the database design. Development process of the system starts with System analysis. System analysis involves creating a formal model of the problem to be solved by understanding requirements

University Management System (UMS) makes management to get the most updated information always by avoiding manual accounting process. This system has the following functional divisions: Administrator User (Students / Faculties /Department Staff) University Administrator has the functionality of registering new colleges and courses. He has the rights of creating department, allocating courses to departments, creating faculties, students and allocating subjects to faculties and modifications in the data entered by the user can also be done by the college administrator. User of this may be faculty or students or department staff. Faculty has the facility of entering the marks and attendance of the students. Students can check their marks and attendance but there is no chance of modifications. Department staff can maintain records respective to their roles. Reports must be generated for the existing data i.e. for attendance .



## **CHALLENGES**

- ❖ It was difficult to merge different individual class into a single large program as it undergoes inheritance and also variable scope gave us error.
- ❖ We also had some problem while formatting Marksheets and Certificates as it includes various types of ascii characters.
- ❖ We also had File Handling as our biggest Challenge. For eg. While getting information from file we had many errors like number of columns were not matching in File and Program.
- ❖ Along with that Modifying Information in files like Changing Fees after Paying Pending Fees was a difficult task for us.

## **CHAPTER 6**

### **CONCLUSIONS AND FUTURE SCOPE**

#### **CONCLUSION**

- ❖ We Learnt How To Make Real Life Application with C++
- ❖ Different concepts we learned are :
- ❖ INHERITANCE (Single & Multiple Inheritance )
- ❖ FILE MANAGEMENT
- ❖ LOOPING STUCTURE ( FOR and WHILE )
- ❖ CLASSES & OBJECTS
- ❖ Other Concepts Like SWITCH, GOTO, Simple IF...ELSE

#### **FUTURE SCOPES**

Normally a Banking Organization covers different area of business. However this project UNIVERSITY MANAGMENT SYSTEM only covers the implementation of the student, college's records and their various activities. The data accumulated in this project is used periodically to provide different types of managerial information.

The future applications of this UNIVERSITY MANAGEMENT SYSTEM are:

- I) This overall project is basically written in function and can be used in conjunction with other program, for future development for UNIVERSITY system.
- II) We have provided many data function through which any one can know about any STUDENT/COLLEGE giving COLLEGE/STUDENT number.
- III) The project is using the modern trend OOPs that gives a better design to the software, which help in maintaining code in terms of reusability, modifiability, etc. These

- attributes a quit wanting in today's complex software scenario. OOPs giving a better designs objective taken this problem and provide better design objective.
- IV) This software is design with OOPs so we chosen C++ language, which provide all features which will be needed in future. This software is having sounding economic aspect with the motion of controlling the local market.
  - V) Cost of our project is comparatively low.

After using UNIVERSITY MANAGMENT SYSTEM the user will find that in the package provided to them has some of the facilities are slightly different than any other packages. This project omits something or adds some additional minor details as and when required by the user.

## **CHAPTER 7**

### **REFERENCES**

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<https://www.w3schools.com/>

<https://www.codesdope.com/cpp-file-io/>

<https://stackoverflow.com/questions/34507989/update-and-delete-data-from-file-in-c>