

**UNIVERSITY OF GONDAR**

**COLLEGE OF INFORMATICS**

**DEPARTMENT OF INFORMATION SCIENCE**

**C++ PROGRAMMING PROJECT DOCUMENTATION**

**Bus Reservation System**

**Group members:**

* **ASHA MEHAMED -----02396/12**
* **NIGIST SHAMBEL---- 00593/12**
* **SIRAK FIKRE------------ 01502/12**
* **EYUEL TESIFAYE-------- 01298/12**
* **SAMUEL NEGASH----- 00015/12**
* **ERMIAS TEKILE ---------01092/12**

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# *Introduction*

The past days were the days when the management class of the bus transport enterprise had difficulties in dedicating buses, giving accurate information to customers timely, dedicating bus drivers, modifying buses and drivers when they detect technical problems, and specifying regular tariffs. Now everything is done online right from buying clothes, accessories, groceries, flight tickets, and even bus tickets. In our country's context, the online information management system is not very practical. This situation makes customers and organizations less productive. Bus information processing and storing system is the same as train and flight information management system. Information on the bus, tariff, time, and deployment is done by the bus transportation enterprise manpower. In our country's context, cross-country bus transportation enterprises face many problems because of the lack of a well-organized document system. And usually, customers face disappointment because of the lack of an interactive and flexible system. This documentation is prepared for the project of the C++ programming course. We have tried to show the possible solution for the mentioned problems. This documentation includes the objectives, methodologies, recommendations, statement of problem, and significance of our project.

# *Statement of problem*

In Ethiopia, almost all bus transport organizations are using a manual system of bus reservation management process. This requires a lot of resources like pens, manpower, paper, and the like. In this manual system loss of data and documents might be occurred. For example; passengers do not know information about the bus. And other technical problems may occur. Therefore the existing system is not satisfying the needs of customers and most of the placement information is kept in a manual file. Therefore it is quite hard for them to search the placement information when needed. The system is very wasteful and requires a lot of time and money. For example, if a person wants to get basic information about the bus, he must go to the office, in other words, his time and money will be lost. As we have mentioned earlier, the existing system has so many problems that are obstacles to performing the work effectively and accurately. To avoid this kind of problem and make the working process more accurate an automated electronic system of bus reservation management system.

# *General objective*

The general objective of our project is to develop an electronic bus reservation management system that can simplify the task of manpower and minimize the complicated problems in our country's manual bus reservation management system.

# *Specific objective*

To achieve the main objective of our project we have put the following specific objectives in our online bus reservation management system development process.

* Identify the problems of the existing system.
* Gathering required information for the proposed system by preparing an interview for the University of Gondar students, observation, and document analysis.
* To analyze the existing business process of the bus reservation management system and route assignment system.
* To implement the new deployed system that can increase customer satisfaction.
* To test the system.

# *Feasibility analysis*

**Operational feasibility**

The system to be developed will provide accurate, active, secure service and decrease the labor of workers. And it will be platform-independent. This can be applied to different bus transportation companies simply by upgrading our project.

**Technical feasibility**

What we are going to develop is not complicated to use it. It can simply be done again by adding values. This bus reservation management system is developed using the existing technology. It is implemented simply by using Codeblock IDE. It can be updated and improved since it is flexible.

**Economic feasibility**

The project we are going to develop is economically feasible and the benefit is reducing the cost. Since this project will computerize the existing system, the reduction of the cost of materials used in manual operation becomes beneficiary to the organization. It can be beneficial for the users since customers from different regions and cities are not required to go to the bus station to buy tickets and rent a room to stay around the station.

**General benefit**

Reduces unnecessary wastage of materials like paper, pen, human power, and user disappointment. It can reduce time wastage for organizations and customers. It creates a greater image of our country for foreign travelers.

# *Significance of the project*

* The system can increase enterprises' profit by minimizing their cost expenditure.
* It can increase customer satisfaction.
* It can minimize the required manpower and the fee for employees.
* It can increase work flexibility and provide fast service.
* Help the organization store bus information in a well-organized manner.
* Help organizations with flexible placement systems.
* It avoids the time wastage for getting access to full bus reservation information for enterprise workers.
* It gives information timely.
* It specifies the tariff.

# *Scope of the project*

The functionality of our project is to give reservation systems, and customer service systems, allowing users to know bus type and number, building C++ programming projects for the concerned bodies like users, organizations, and some programmers who can add value to our project and magnify its purpose and use. A user should be able to:-

* Choose the bus.
* Modify or delete bus information.
* The system should automatically show the schedule for the corresponding bus for passengers.
* The system is only functional for bus managers.
* Assigning bus to journey.
* Allow users to specify the time and place where and when they travel.

# *Methodology for the project*

We gather information by using the following methods:-

**Online resource observation:**

We have observed the problems and suggested solutions from online resources of Ethiopian road construction and transportation agencies. We have observed a lot from the internet since the problem is not concerned only with our country's context.

**Document analysis:**

To get more information about the bus reservation management system and how to assign bus journeys we refer to documents that enable the team to get information to understand about problems and business of the existing system.

**Interview:**

In an interview, we contacted some employees we knew previously and then exchanged some ideas about the manual system and how it has been working. We knew the drawbacks of our country's manual bus reservation management system. since we are students from various places in the country. The interview is mainly done one our classmates and dorm mates.

# *Result and discussion*

Our new project addressed the problem of the manual system of bus reservation management system and can support additional manipulation or features. our project, if it is done on a larger scale, will overcome all the problems being faced by manual management systems. Passengers can get information over the system 24 hours a day, 7 days a week as long as their device is functional and the system is connected to the internet. Passengers can check the availability of bus information before they buy tickets. Any person across the country can use the system. They will get better and more accurate service than any of the manual management.

# *Conclusion*

Transportation has become essential in our day-to-day life. In Ethiopia, transportation provides links between dwelling units and work opportunities especially in urban areas as much more of urban travel is likely to be work trips, shopping, entertainment, travel to and from schools, and a variety of other reasons for making trips depending on transportation. In our project on C++ programming, we have tried to oversee the problems and tried to solve those problems by using our knowledge of C++. The solutions that are included in our system can be used to develop many other online bus reservation systems. It can be taken as a base for other systems. From this project, we have learned that as technology students, we can solve any problem in our country and even in our world.

## *Recommendation*

* Our system is done by C++ IDE called code block. Even if we have done a great project, it requires some other IDE to make it attractive and easy to use.
* On the other hand we didn’t complete the task of adding sit number data because, to provide such kind of value we need much more time. It can simply be improved and upgraded.
* For future use, this project needs to consist of sit number data and it needs to be more attractive for further use. If it can be done with a large number of data it will surely solve our problem in the bus reservation system.
* The passengers should reserve a ticket online. The project needs to be connected to the internet to make it available in a broader state.
* This project mainly helps to reduce the task of the management team of bus staff. This reduces the task of customers by giving them accurate information. But this system has a lack of electronic tickets and assurance because of time. This project can be improved by providing tickets.
* We didn’t include a specific password for the concerned body because of lack of time. It can simply be updated and improved

**References**

Alemayehu, S. (2019, May 15). *Online ticket reservation and bus placement system Mizan online ticket reservation and bus placement system for TEPI bus senior project documentation submitted to fulfillments bachelor*. Sol. Retrieved July 14, 2022, from <https://www.academia.edu/39138224/Online_Ticket_Reservation_And_Bus_placement_System>.

**[2004] transport enterprises /Ethiopian transport system.**