College Management System

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Overview

The following proposal is for a 'College Management System' which enables students to easily navigate their preferred college based on the prerequisites they would like the college to have to ensure a better learning experience.

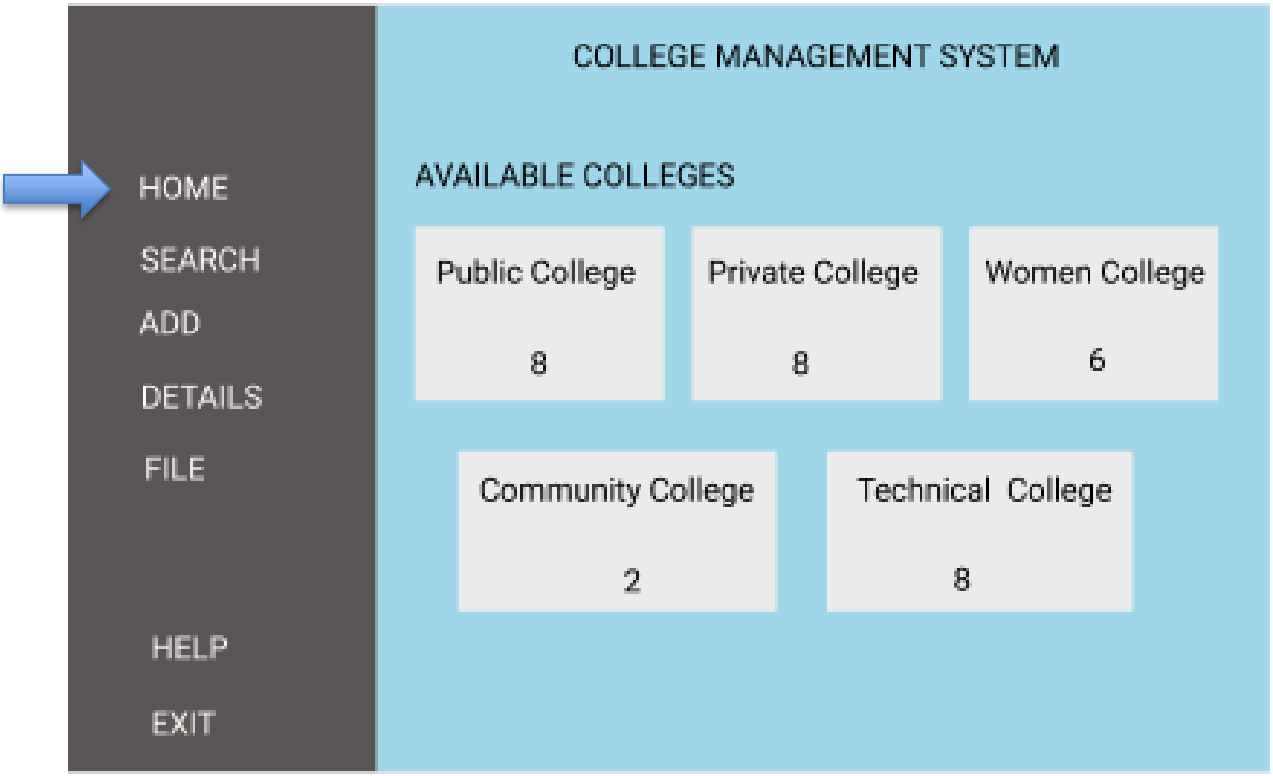
Goals

1. Provide a user-friendly interface with several functionalities in order to create a better experience as well as aid the searching process
2. Cover a large variety of colleges with several facilities appealing to students
3. Research based approach to gain an insight into the features of available colleges
4. Use algorithms like binary search and merge sort to create a working search bar.
5. Displaying list of colleges with the help of file handling.

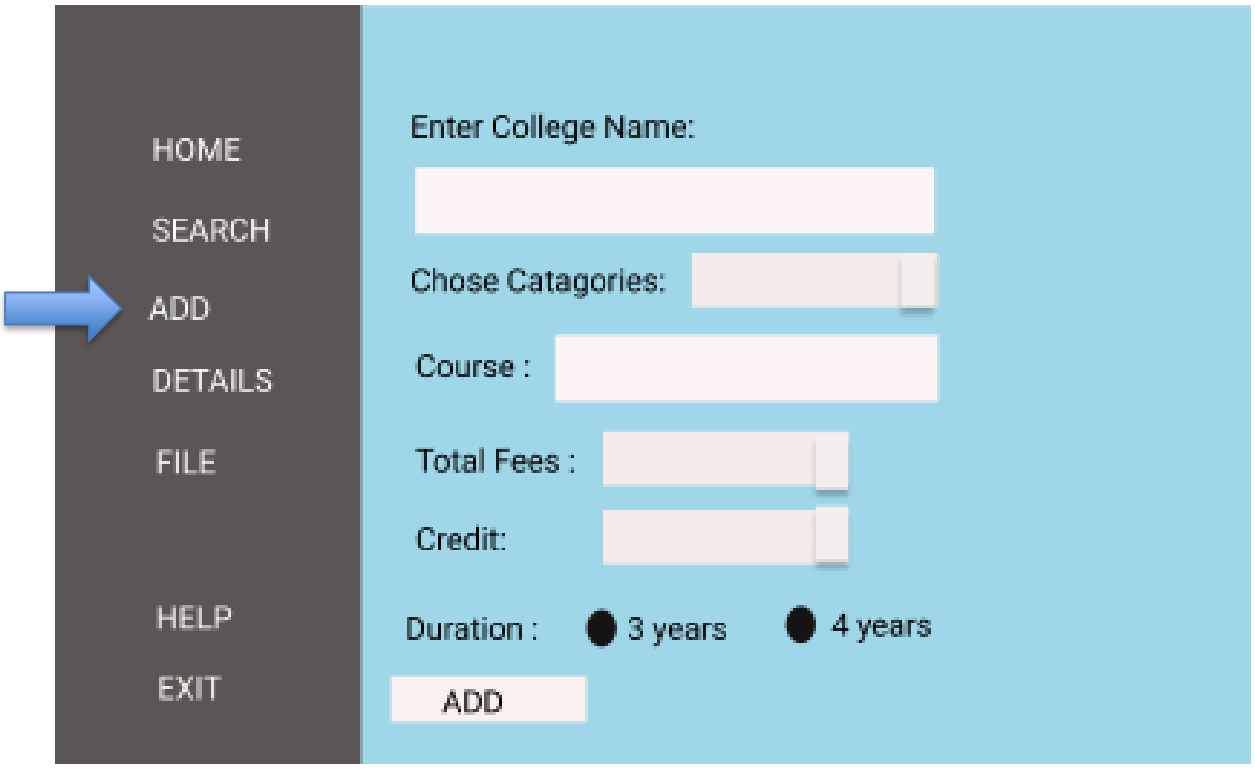
Specifications

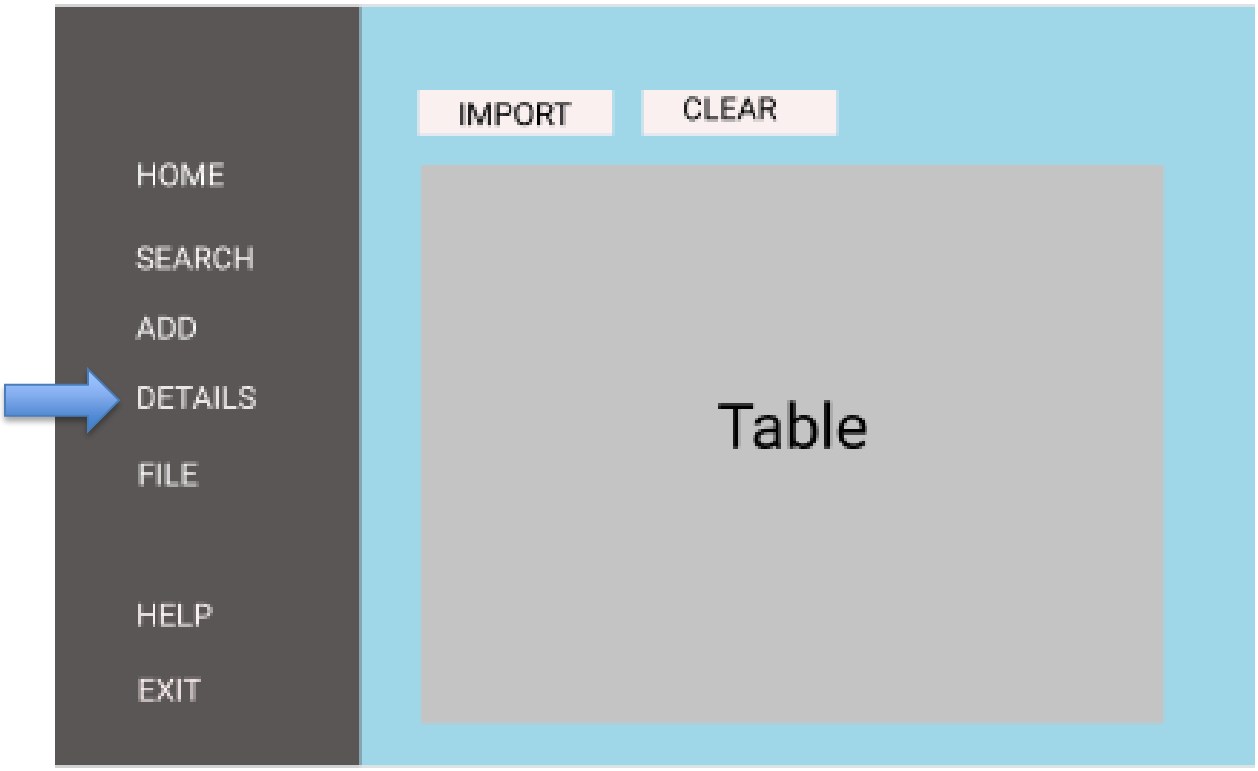
A wireframe is created to visualize the final product of the college management system. The components of GUI used in the college management system wireframe are explained as well.

Wireframe:


HOME
SEARCH
ADD
DETAILS
FILE
HELP
EXIT
COLLEGE MANAGEMENT SYSTEM
AVAILABLE COLLEGES
Public College
8
Private College
8
Women College
6
Community College
2
Technical College
8


HOME
SEARCH
ADD
DETAILS
FILE
HELP
EXIT
Enter Price:
SEARCH
Price
40000 - 79999
120000 - 170000
80000 - 119999
170000 - 210000
Category:
ComboBox
SHOW


HOME
SEARCH
ADD
DETAILS
FILE
HELP
EXIT
Enter College Name:
Chose Catagories:
Course :
Total Fees :
Credit:
Duration :
3 years
4 years
ADD


HOME
SEARCH
ADD
DETAILS
FILE
HELP
EXIT
IMPORT
CLEAR
Table

GUI Components:

1) jFrame:

This frame acts like the main frame which has the title bar, where all jpanel are added.

2) jPanel:

jPanel is a container that stores a group of components, this jPanel will be used to organize components in various layouts which provide better organization.

3) Radio Box:

This radio box is used to select one option out of many options. This will be widely used during the duration of college in this system.

4) jButtons:

This jButton is used to create a labeled button which results in some action when the button is pushed.

5) Combo Box:

Combo box is a dialogue box containing a collection of text boxes, drop down lists that is used to list all the categories of college in Nepal.

6) jTextfield:

A jtextfield is a single line area that the user can type into it. Hence, user input data can be obtained from the text fields. The text field will be used to create a search bar in which Binary Search Algorithm will be used to search for any college data input by the user.

7) jLabels:

A jlabel is a simple component which contains a string which just displays a single line of read only text.

8) jTable:

This jtable class is used to display data in tabular form which is composed of rows and columns. The following header will be used in jtable which are all in string data types:

1) College Name
2) Category
3) Course
4) Total Fee
5) Credit
6) Duration
7) Contact Number

9) Menu bar:

Menu bar is the bar or column of set buttons that are used to navigate throughout an application as well as add functionalities to the application.

Features

1. The menu bar will be a vertical bar containing menus like Home, Search, College Details, Help and Exit at the left side of the GUI.
2. Search button will search colleges according to their requirements the user has entered.
3. Users can see all the available colleges by clicking on the 'File' button on the menu bar.
4. Users can add college information using the add button.
5. Users can get a guide to use the application by clicking on the 'Help' button which will open a pdf file consisting of a user manual.
6. Using the 'Exit' button users can terminate the application

About NetBeans

NetBeans was used to create the user interface as well as write the code to provide functionalities to the interface. Buttons will be made to work using the action event listener class of Java. In order to write the Java code, NetBeans will be used as it is one of the most reliable text editors being used by programmers. NetBeans provides easy UI creation as well as autocomplete feature to make the coding process fast as well as efficient. Because of these features, NetBeans is used as the text editor for Java in this project.

Milestones

I. Creation of a User-Friendly Interface

For the first part of the project, a user-friendly interface will be developed. The interface will focus more on conciseness and usability as well as aesthetics in order to make the user drawn into the application. This will provide them with a more immersive research experience allowing them to better understand their choice and choose accordingly.

II. Adding Functionalities to GUI Components

After completion of GUI, Java will be used to write backend code in order to make sure the components of the GUI function properly. Action events will be added in order to make all the components of the GUI work. Thus, completing the technical aspect of the GUI.

III. Documentation:

Finally, after the GUI is complete, the technical aspect, user manual as well as the development process will be documented. Thus, formed documentation will be provided along with the program.