A

Project Report On

**Student Result Management**

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BCA Semester–6

Project Guide:

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Submitted To:

Geetanjali College Of

Computer Science And Commerce (B.B.A).

Rajkot.

Academic Year: 2024-2025

## Acknowledgement

We Are Happy To Submit Our Idea Of "Student Result Management " Software To Saurashtra University, Rajkot For BCA Course In Computer Branch.

We Are Also Grateful To Prof. Brijesh Shah, The Head of The Department And All The Faculty Members Of The Department Of Computer Science For Their Kind Support Through Out This Journey.

We Take The Privilege To Acknowledge The Elite Authors Of Numerous Books And Papers And Blogs Which We Have Referred During Progress Of The Project.

The Feeling Of Gratefulness To Any One's Help Directly Arises From The Bottom Of Our Heart. A Small But An Important And Timely Help Can Prove To Be A Milestone In One's Life.

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# Project Profile

* Project Title : Student Result Management
* Development Software : VS Code
* Front End : Python
* Backend : SQL
* Academic Year : 2024-2025
* Developed By : Bhanderi Kavan &

Mathiya Kano

* Submitted To : Geetanjali College
* Documentation Tool : Microsoft Word
* Operating System : Windows
* Language : Python

## System Development Life Cycles

For The Development Of This Project We Have Followed The Simple Waterfall Model Of SDLC.

The Waterfall Model Was The First Process Model To Be Introduced. It Is Also Referred To As A Linear-Sequential Life Cycle Model. It Is Very Simple To Understand And Use. In A Waterfall Model, Each Phase Must Be Completed Before The Next Phase Can Begin And There Is No Overlapping In The Phases.

The Waterfall Model Is The Earliest SDLC Approach That Was Used For Software Development.

The Waterfall Model Illustrates The Software Development Process In A Linear Sequential Flow. This Means That Any Phase In The Development Process Begins Only If The Previous Phase Is Complete. In This Waterfall Model, The Phases Do Not Overlap.

Step :-

1. Project Planning
2. Requirements Gathering
3. System Design
4. Implementation
5. Testing
6. Deployment
7. Maintenance
8. **-** **Requirement Gathering**

Any software development process must include the **Requirement Gathering** stage. After selecting the project topic, one must thoroughly research every criterion needed to construct that specific project.

We began gathering requirements for the **Student Result Management System** by exploring various **student management systems** and **result processing applications** available in the market. In order to learn about the necessary functionalities and features needed for the efficient management of student information and results, we examined different applications that focus on **student registration**, **result management**, and **data presentation**.

We explored various **educational apps** and **school management systems** to understand the required functionalities and layout design, focusing on how they manage student data and generate results.

Features That Are Needed In System For Users Are As Follows:

* 1. **Course Page :**

**Purpose:** This page will manage all the course-related information.

**Fields to be included:**

* **Course Name**: Name of the course (e.g., "Computer Science", "Mathematics").
* **Duration**: Duration of the course (e.g., "3 months", "6 months").
* **Charges**: Course fee (e.g., "1000 USD").
* **Description**: A brief description of the course content.
  1. **Student Page:**

**Purpose:** This page will manage student information, including personal and academic details.

**Fields to be included:**

* **Roll No.**: Unique identifier for the student (e.g., "CS101").
* **Name**: Full name of the student.
* **Email**: Email address of the student.
* **Gender**: Gender of the student (e.g., "Male", "Female", "Other").
* **Date of Birth (DOB)**: Birthdate of the student (in format: DD/MM/YYYY).
* **Contact Number**: Student’s contact number.
* **Admission Date**: Date the student was admitted to the course (in format: DD/MM/YYYY).
* **Course**: The course the student is enrolled in (e.g., "Computer Science").
* **State**: The state where the student resides.
* **City**: The city where the student resides.
* **Pincode**: Postal code for the student’s address.
* **Address**: Full address of the student.
  1. **Result Page:**

**Purpose:** This page will allow the admin to manage student results.

**Fields to be included:**

* **Select Student**: Dropdown or search box to select a student by their roll number or name.
* **Name**: The student’s name (this will auto-fill when the student is selected).
* **Course**: The course the student is enrolled in (this will auto-fill when the student is selected).
* **Marks Obtained**: Marks the student received in the exam (e.g., 80/100).
* **Full Marks**: The total possible marks for the exam (e.g., 100).
  1. **View Student Result Page :**

**Purpose:** This page will allow the admin to view a student’s result by searching using the roll number.

**Fields to be included:**

* **Search Roll No.**: Text box to enter the roll number of the student whose result needs to be viewed.
* **Details Displayed**: Upon searching the roll number, display:
  + Student name.
  + Course name.
  + Marks obtained.
  + Full marks.
  + Grade (calculated based on marks obtained).

1. - **Project Planning**

Once the **Requirement Gathering** phase has been completed, the next step is to create a **Project Plan**. This involves determining the required project modules and selecting the optimal technologies for development.

To Create The Existing Project, Choosing Technologies In This Case Means Selecting Frontend And Backend Technology.

For the **Student Result Management System**, we have chosen to use **Python** with a **GUI framework** for the **User Interface (UI)** development.

For the backend of the Student Result Management System, we will use Python with a SQLite database for storing and managing data.

1. - **System Design**

This Process Can Be Broken Down Into Two Parts: The Preliminary Design And The Final Design. The Project's Basic Layout Is Generated On Paper Or Using Any Design Program During The Preliminary Design Phase, And The Development Team Then Evaluates The Design's Viability.

The Second Phase Is Final Design, In Which The Project's Final Or Nearly Accurate Design Is Constructed After Earlier Concepts Have Been Evaluated For Practicality And Flaws Have Been Identified.

In My Project Each page will have a simple and intuitive layout, with clear fields for input and buttons for actions like "Add", "Update", "Delete", "Save", and "Search".

* **Course Page** will display a table of courses with options to add, update, and delete courses.
* **Student Page** will have a similar layout, with a table showing student information and options to add, update, and delete students.
* **Result Page** will display a form for entering marks and a table to view results.
* **View Result Page** will have a search bar to look up a student’s results by their Roll Number and show their detailed results.
* **Logout** and **Exit** will be simple buttons placed at the top or bottom of the window.

1. - Coding & Implementation

The Actual Application Is Coded In The Chosen Programming Language Following The Collection Of All Requirements, Customer Approval Of The Design, And Feasibility Assessment Of The Project.

The SDLC's Longest Phase Is Regarded As Being This One. To Finish This Level, We Need Various Tools Including Ides, Browsers, And Backend Tools. For Development, We Selected Visual Studio Code And Android Studio For The Development Of The Application.

To Avoid Confusion Throughout The Coding Phase, We Also Adhere To The Following Coding Standards:

Coding Standard:

* 1. Give The Variable Names Based On The Activities In Which They Are Present. For Example, If A Variable Is Present In A Category Activity, Its Name Must Begin Or End With A Cat Or Category Phrase.
  2. Whenever An Array Is Constructed, The Array Suffix Is Utilized.
  3. Data Classes That Are Used Are Given Names Based Only On Their Activity.
  4. An Adapter Suffix Is Required For Adapter Classes.
  5. All Variables And Files Must Have Camel Case Names.
  6. Functions For Data Loading Employ Get Prefix.

The Application Development Divided To Two Phases, Which Are:

* + 1. Database Making :

Database Is Made Based On The Design. It Used Firebase Real Time Database Which Will Be Related Between The Applications Developed In Android OS To Display Different Unexplored Indian Places.

* + 1. Application Development :

This Phase Is Translating The Result Of Design Into Android Programming Users Who Are Using The Application.

1. - Testing

The Application Is Ready To Be Tested For Usability And To See If It Is Operating As Planned Once The Coding And Implementation Phases Are Complete.

For Testing Purpose, We Shared Our App With Friends And Professors To Verify Its Functions And User Friendliness. Till App Does Not Function As Intended This SDLC Process Repeats Itself From First Step To Last.

## System Requirement Specifications

To Develop This Project, The Following System Hardware And Network Are Required:

Minimum Hardware Requirement: For Android Application:

|  |  |
| --- | --- |
| Operating System | Android OS |
| CPU/Processor | No Specific |
| Ram | 4 GB |

## About The Tools & Technologies

#### Flutter:

Flutter is an open-source UI toolkit developed by Google, designed for building natively compiled applications across mobile, web, and desktop platforms from a single codebase. It allows developers to create high-performance applications with expressive and flexible UIs. Available on Windows, mac OS, and Linux, Flutter has quickly gained recognition as a powerful tool for modern app development.

Initially unveiled at the Dart developer summit in 2015, Flutter has undergone significant evolution. Its first stable release was made available in December 2018, marking a pivotal moment in cross-platform development. The framework emphasizes fast development cycles with hot reload capabilities, allowing developers to see the results of their changes in real time, which significantly speeds up the debugging and design process.

Flutter's architecture is built around a rich set of customizable widgets that follow Material Design and Cupertino standards. This enables developers to create visually stunning applications that feel native on both Android and IOS platforms. Additionally, Flutter’s engine is optimized for performance, providing a smooth user experience with high frame rates.

**Android Studio:**

**Android Studio** is the official Integrated Development Environment (IDE) for Android app development, built on Jet Brains' IntelliJ IDEA software. It was designed specifically to cater to the needs of Android developers, providing a robust and feature-rich environment for building high-quality applications. Available for Windows, macOS, and Linux, Android Studio is widely regarded as the standard tool for creating native Android applications.

#### Dart:

Flutter utilizes Dart as its programming language, which is also developed by Google. Dart is an object-oriented language that focuses on front-end development and is designed to offer a productive and efficient development experience. Its features, such as sound null safety and asynchronous programming support, help developers write safer and more robust code.

Dart’s “just-in-time” (JIT) and “ahead-of-time” (AOT) compilation options allow for rapid development and high-performance execution. JIT enables quick iterations during development, while AOT ensures that the final app is compiled into efficient native code for deployment.

#### Ecosystem and Community:

The Flutter ecosystem is enriched with a wide range of packages and plugins available through the **pub.dev** repository. This allows developers to extend the functionality of their applications easily, integrating services like Firebase, HTTP requests, and state management solutions. The vibrant community around Flutter contributes to its continuous improvement, offering tutorials, tools, and resources to help developers at all skill levels.

In summary, Flutter is revolutionizing app development by providing a comprehensive framework that supports building high-quality applications for multiple platforms. With its fast development cycles, rich set of widgets, and a robust programming language in Dart, Flutter empowers developers to create beautiful, performant apps that meet the demands of today’s users.

#### Firebase:

A Backend-As-A-Service Is Firebase (Baas). It Offers A Range Of Tools And Services To Developers So They Can Create High-Quality Apps, Expand Their User Base, And Make Money. It Is Built Using Google's Technical Framework. A NoSQL Database Application, Firebase Stores Data In Documents That Resemble JSON.

#### Key Features of Firebase

* 1. Authentication :

Passwords, Phone Numbers, Google, Facebook, Twitter, And Other Methods Are All Supported For Authentication. One Or More Sign-In Methods Can Be Manually Incorporated Into An App Using The Firebase Authentication (SDK).

* 1. Real-time Database :

Data Is Continuously Available Across All Clients And Is Synced In Real-Time, Even When An App Is Not Running.

* 1. Hosting :

A Web App Can Be Hosted Quickly Using Firebase Hosting Thanks To Content Delivery Networks All Over The World Being Cached.

* 1. Test Lab :

On Physical And Virtual Devices Housed In Google's Data Centers, The Application Is Tested.

5 Notifications:

With Firebase, Notifications Can Be Sent Without Any Additional Coding.

#### Visual Studio Code :

A Source-Code Editor Called Visual Studio Code Works With Many Different Programming Languages, Such As C, C#, C++, Fortran, Go, Java, Javascript, Node.Js, Python, And Rust. It Is Built On The Electron Framework, Which Is Used To Create Web Apps Written In Node.Js And Run On The Blink Layout Engine.

The Editor Component (Codenamed "Monaco") Used In Azure Devops Is Also Utilized In Visual Studio Code (Formerly Called Visual Studio Online And Visual Studio Team Services).

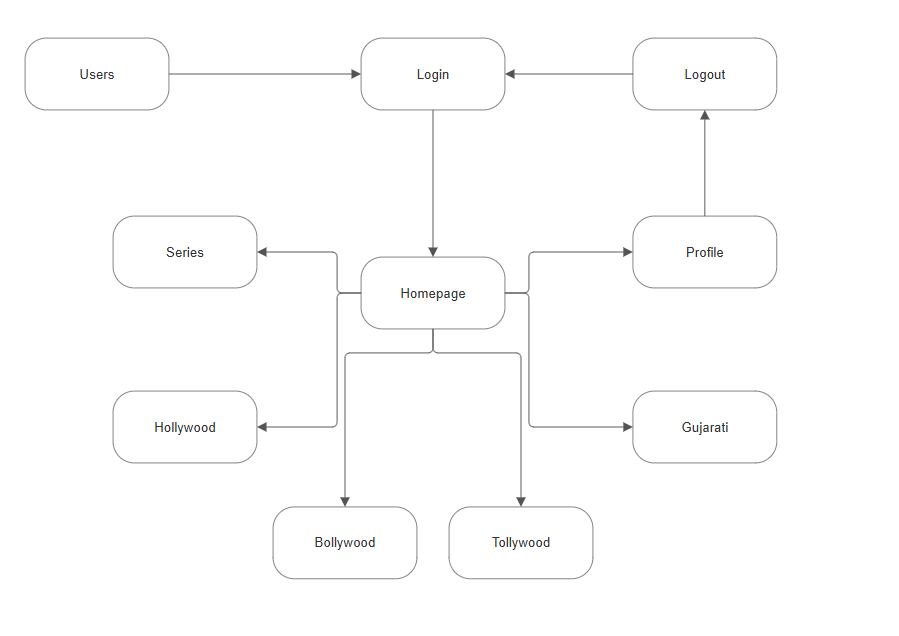
The Majority Of Popular Programming Languages Have Minimal Support Out Of The Box In Visual Studio Code. This Fundamental Support Consists Of Configurable Snippets, Code Folding, Bracket Matching, And Syntax Highlighting.

Along With Debugging Support For Node.Js, Visual Studio Code Also Comes With Intellisense For Javascript, Typescript, JSON, CSS, And HTML. The VS Code Marketplace's Freely Downloadable Extensions Can Add Support For More Languages.

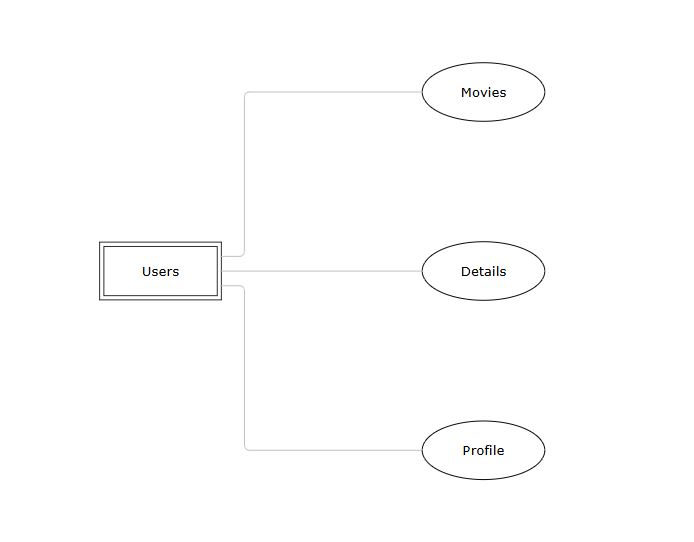
#### Word:

MS Word Enables Users To Do Write-Ups, Create Documents, Resumes, Contracts, Etc. This Is One Of The Most Commonly Used Programs Under The Office Suite.

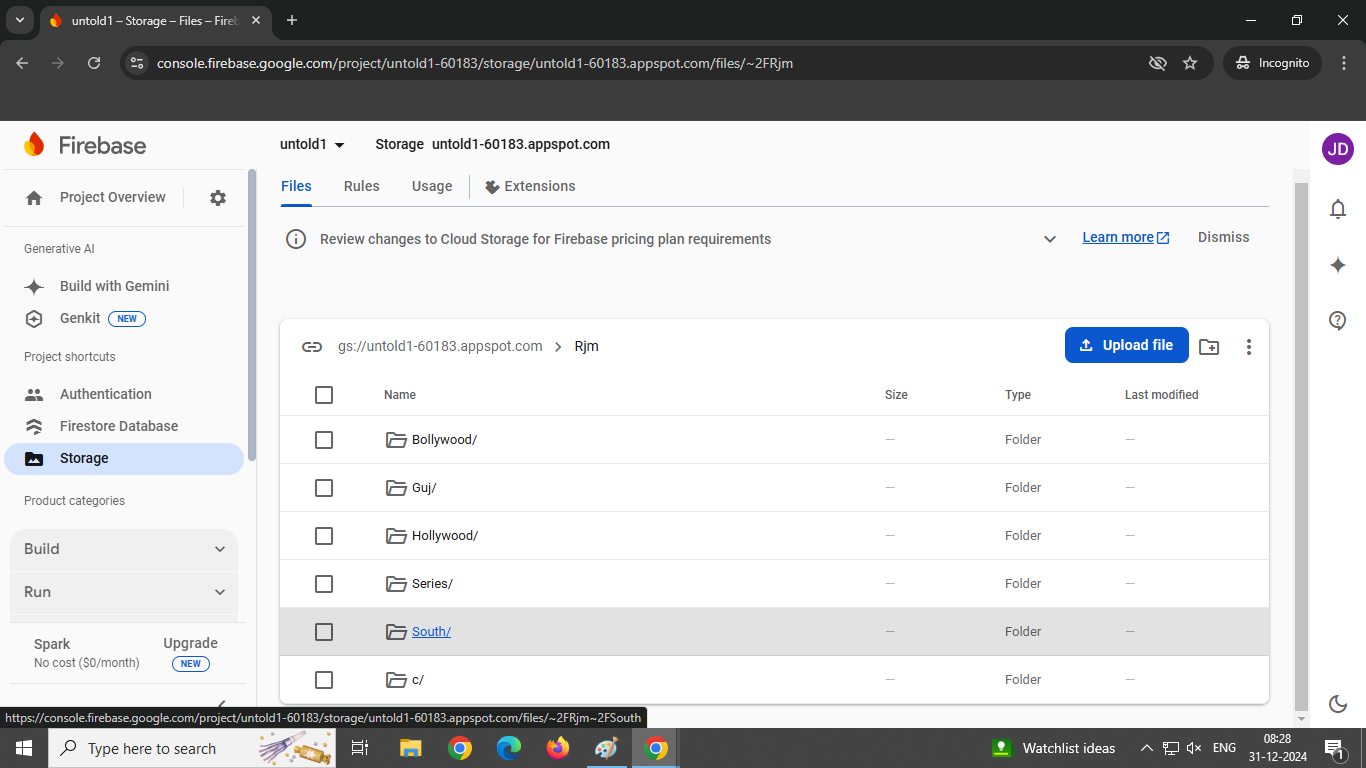
## Data Flow Diagram

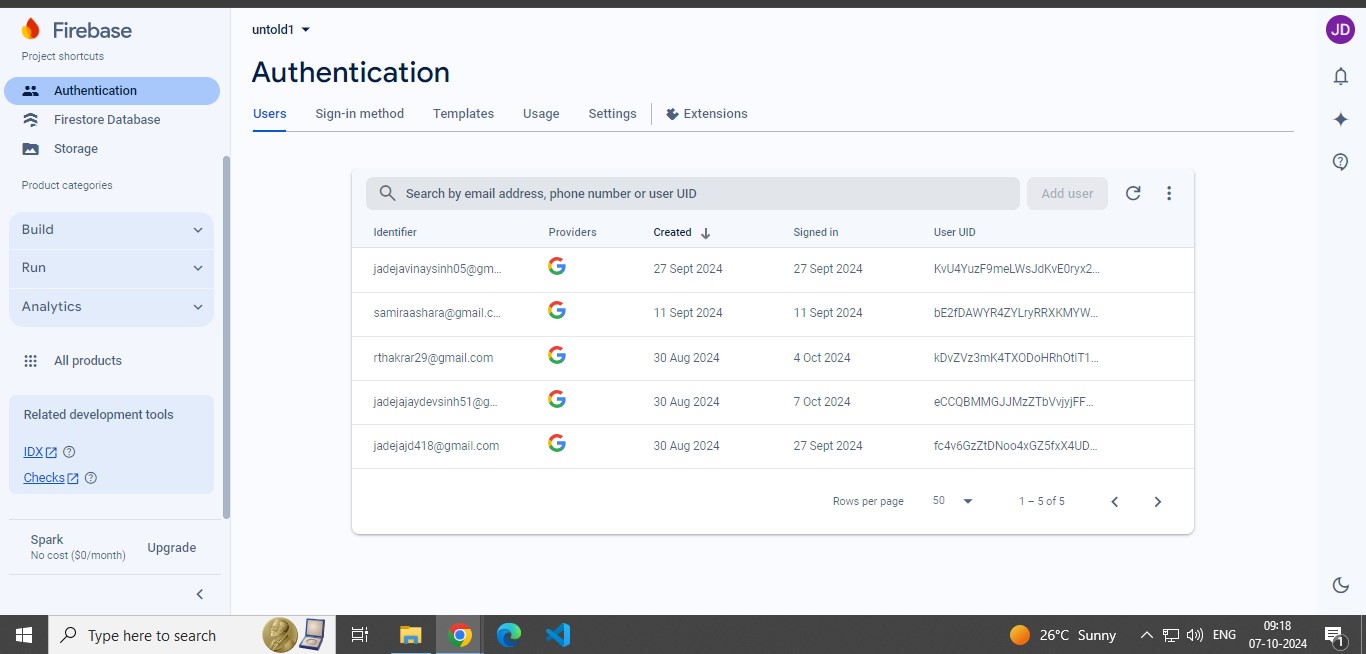


## Entity Relationship Diagram



## Data Dictionary





## Screen Shots

## Login Screen:

## 

## 

## These Are The Pages For Login As It Contains The Splash Screen Which Allows You To Login With Google.

## On Clicking The Sign In With Google Button You Will Be Showed Up The Logged In Google Accounts In The Mobile Phone.

## On Selecting The Google Account To Be Logged In With You Will Be Navigated To The Home Screen Of The App.

## Home Screen

## 

## This Is The Home Screen Of The App Which Shows You Latest Movies Which Are A Mixture Of All The Types Of Movies, Which Includes Tollywood, Bollywood, Hollywood, Gujarati, Web Series.

## 

## Category Wise Page

## 

## These Are The Pages Which Are Category Wise Classified , Which Includes Web Series , Hollywood, Gujarati , Bollywood, Tollywood.

## Detail Page

## 

## It Provides The Summary Of The Movie On Which You Tapped.

## It Also Provides Movies Resolution, Its Category, Year Of Release, Ratings.

## Along With The Screenshots Of The Movies And A Download Button Which Directly Navigates User To That Particular Movie Download Section In The Telegram.

## Profile Page:

## 

## This Is The Profile Page In Which The User Details Like The Gmail Photo , The Mail Id And The Username For The Gmail Is Provided.

## And Also You Can Logout Through The Center Bottom Logout Button In Order If You Want To Logout.

## Logging Out Will Navigate You To Login Screen.

## Limitation

* + Though We Tried Our Best In Developing This Application But As Limitations Are Major Parts Of Any App So Are Of Our App. Some Limitations Of RJ Movies Are As Follows:

-The First Limitation Is The Photos From The Database When Retrieved Are Very Slow In Order To Display In The Application.

-As Of Now We Have Noticed That As We Are Only Providing The Few Of The Movies We Are Having In Our Application That Is Those 70,75 Movies Only And We Are Not Able To Display Other Movies

## Future Enhancement

* + To Conclude, Project Data Grid Works Like A Component Which Can Access All The Databases And Picks Up Different Functions By Admin. Trying Remove The Many Limitations. Add Some Functionality In Future Are Shown Below.
    - Improve Application Behavior.
    - Also Make The Google Category Wise Movies.
    - Provide More Functionalities To Use In App.

## Webliography

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