

FINAL YEAR PROJECT REPORT

On

"Development of School Website and Online Admission Management System"

For

GYAN GANGA PUBLIC SCHOOL, BHADASI

Submitted in partial fulfillment of the requirement for the award of the degree of
BACHELOR OF COMPUTER APPLICATION (BCA) 6th Semester
(2019 - 2022)



Submitted to

L. N. Mishra Institute of Economic Development and Social Change
Jawaharlal Nehru Marg, Bailey Road, Patna - 800001

Bihar Government Autonomous Institute Affiliated To

ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA

Approved By AICTE & Recognized And Aided By The H.R.D. Govt. Of India.

UNDER THE GUIDANCE OF :

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SUBMITTED BY:

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Session : 2019 - 2022

DECLARATION

I **Anish Kumar Sinha**, Roll No. **19609**, **BCA (6th Semester)**, **Lalit Narayan Mishra Institute of Economic Development and Social Change, Patna**. Hereby declare that the project report entitled **“Development of School Website and Online Admission Management System”** which is submitted in partial fulfillment of the requirement for the award of the degree of **Bachelor of Computer Application** to **ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA**

I also declare that this project is an authentic record of my original work carried out under the guidance of **Mr. Santosh Kumar Jha**, Asst. Professor, Department of Computer Application, LNMI, PATNA and has not been submitted to any other University or Institution for the award of any degree, or personal favour what so ever. All the details and analysis provided in the report hold true to the best of my knowledge.

(Signature of Student)

Anish Kumar Sinha

ACKNOWLEDGEMENT

First of all, With immense pleasure, we would like to express our deep sense of gratitude to our beloved Director **Dr. S. Siddharth, I.A.S.,** Lalit Narayan Mishra Institute of Economic Development and Social Change, Patna for the valuable guidance and for permitting us to carry out this project.

With Candor and Pleasure, We take opportunity to express our sincere thanks and obligation to our esteemed Project Guide or Sir **Mr. Santosh Kumar Jha,** Asst. Professor, LNMI, Patna. It is because of his able and mature guidance, insights, advises, co-operation, suggestions, keen interest and thorough encouragement extended throughout the period of project work without which it would not be possible for us to complete our project.

We are very grateful to all the faculty members of our college for their precious time and untiring effort spent over our training for acquainting us with the nuances of the entailing work and thanks for the invaluable time they spent training us in the intricacies of the job.

We extend our sincere gratitude towards Principal **Soni Kumari** and the people of **Gyan Ganga Public School, Bhadasi,** for providing the opportunity and resources to work on this project. It has been of great learning to be on the training and doing the project simultaneously, which enriched our knowledge and developed our outlook for becoming a better professional.

We take the opportunity to thank our team members (**Anish Kumar Sinha, Sweta Kumari, Sonu Kumar Kushwaha and Nihal Priyadarshi**) who contributed towards the successful completion of this project.

It is our pleasant duty to thank all the concerned people who have directly or indirectly extended their helping hand during the course of this project report.

Above all, We gratefully acknowledge the constant support, encouragement and patience of our families and friends during the entire duration of our project training. Hopefully, This project would add as an asset to our academic profile. **Thank You!**

Dated: 14th of May 2022

Signature

With Gratitude,

Anish Kumar Sinha

Roll No. : 19609

BCA (6th Semester)

Reg. No. : 19303333008

Session : 2019 - 2022

CERTIFICATE OF ORIGINALITY

I **Anish Kumar Sinha**, Roll No. **19609**, **BCA (6th Semester)**, **Lalit Narayan Mishra Institute of Economic Development and Social Change, Patna**. Hereby declare that the project entitled **“Development of School Website and Online Admission Management System”** submitted to the **Department of Computer Application, LNMI, Patna** in partial fulfillment of the requirement for the award of the degree of **Bachelor of Computer Application** in session **2019 - 2022** is an authentic record of my original work carried out under the guidance of **Mr. Santosh Kumar Jha**, **Asst. Professor, Department of Computer Application, LNMI, Patna** and that the Project has not previously formed the basis for the award of any other degree.

Place : PATNA

Date : 14th of May 2022

(Signature of Student)

Anish Kumar Sinha

PROJECT TITLE

"Development of School Website and Online Admission Management System"
For



GYAN GANGA PUBLIC SCHOOL

Bhadasi, Arwal, Bihar (India) - 804401

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1. INTRODUCTION

Online Admission Management System has become one of the most important parts of running successful operations of an educational institution today. Since **COVID-19** happened, running contact-less operations become urgent. Around the world, schools started adopting new ways of managing digital teaching operations.

Now as schools around the world are heading to plan for completing the current academic year and plan for smooth operations of next year, digitizing end to end admission process became urgent. Running the same old physical form based admission can not only become time consuming and inefficient but dangerous to the health safety too.

As the website of **Gyan Ganga Public School** (www.ggpsarwal.github.io/ggpsarwal) is online the number of students applying for the admission are increasing rapidly, it requires much effort and time to handle the admission system with man power and paperwork. So we are in need of a better system to make the process easier and serves better which could be done by **Computerized Admission Management System** that facilitates the work of the school and at the same time it must reduce the work load of the organization with expected quality. Quality in the sense, the system try to avoid the mistakes that are usually happen during the Admission Process.

The project entitled **“Development of School Website and Online Admission Management System”** is a web application and has been developed to override the problems prevailing in the practicing manual system. This web application is supported to eliminate and, in some cases, reduce the hardships faced by the existing system (manual). Moreover, the system is designed for the particular need of the school to carry out operations in a smooth and effective manner. It doesn't only improve efficiency of the administration department but also gives extreme convenience to parents who are looking for enrolling their kids to the school.

Every school, whether big or small, has challenges to mark their online presence and to overcome and managing the information of its enrolled or passed-out students. Every school has different needs. Therefore, we have designed exclusive user interface that are adapted to school managerial and informational requirements. This is designed in a unique way to cover the needs of all kinds of educational organisations for designing custom forms with attachments to ease the paperless admissions process also assist in strategic planning, and will help admin to ensure that their school is equipped with the right level of information and details for their future goals.

2. OBJECTIVE

The project entitled “*Development of School Website and Online Admission Management System*” has been developed to help the school to mark their online presence and automate the task carried out by different people in the organisation to manage the student admission and enrollment.

The main objective of this web application is to automate the admission process without any flaws. Its basic objectives are to extend their reach to geographically scattered students, reducing time in activities, centralized data handling and paperless admission with reduced manpower. Its other factors are cost cutting and operational efficiency. Main challenges are effectively completing the admission process within the time limit and making the process easier for the students. Hence there is a prerequisite for maintaining a database, to store all the details.

2.1 Other objectives to be fulfilled :

- **Reach to geographically scattered students :**
 - One of the important objectives of this admission management system is to communicate with all the enrolled students scattered geographically.
- **Reducing time in activities :**
 - Reduce the time taken in the processing applications of students, admitting a student, verify student details, and send call letters to selected students.
- **Centralized Data-handling :**
 - Transfer the data smoothly to all the departments involved and handle the data in centralized manner.
- **Paperless admission with reduced manpower :**
 - Reduce the paperwork and manpower needed to manage admissions and enrollment and perform the administrative actions.
- **Cost Cutting :**
 - Reduce the cost involved in the admission and enrollment process.
- **Operational efficiency :**
 - Improving the quality of the process will lead to operational efficiency.

3. SCOPE OF PROJECT

- i. ***Online Admission Management System*** is to store the student admission details which would be accessed only on the registered systems.
- ii. Database is accessed and maintained by the administrator.
- iii. For each event database should be updated and should be ready to provide information to the student in no time
- iv. Students have the only access to database and not authorized to perform modification or deletion in the database.

3.1 Goals to be achieved by this project :

- a. Manage large number of student details.
- b. Manage admission details of students and send appropriate information about school events to the student account.
- c. Create student accounts and maintain the data effectively.
- d. View all the saved details of student.
- e. Create the statistical reports to facilitate the finance department needs and assist in strategic planning.
- f. Reduce the work load in the admission of students.
- g. Activities like updating, modifying and deleting records should be easier.

4. SYSTEM ANALYSIS

This section deals with the processes involved in the of requirement gathering.

4.1 Organisation Overview :

Gyan Ganga Public School is a co-educational Pre-k through 8th grade private school in **Bhadasi, Arwal** registered under **Govt. of Bihar** (Reg. No. - 15AR/PVT/2017). It was founded and established in **2007** by **D. D. Singh** (Director, GGPS) and runs under the supervision of **Soni Kumari** (Principal, GGPS) with employee strength of **50+ People** including **Teaching and No-Teaching Associates**.

4.2 Identification of Need :

As the website of **Gyan Ganga Public School** (www.ggpsarwal.github.io/ggpsarwal) is online the number of students applying for the admission are increasing rapidly, it requires much effort and time to handle the admission system with man power and paperwork. So we are in need of a better system to make the process easier and serves better which could be done by **Computerized Admission Management System** that facilitates the work of the school and at the same time it must reduce the work load of the organization with expected quality. Quality in the sense, the system try to avoid the mistakes that are usually happen during the Admission Process.

4.3 Preliminary Investigation :

In order to proceed further with the development of the project entitled **“Development of School Website and Online Admission Management System”**, Developer team (**Anish Kumar Sinha, Sweta Kumari, Sonu Kumar Kushwaha and Nihal Priyadarshi**) has done preliminary investigation through one-to-one interview with **Soni Kumari, Principal of Gyan Ganga Public School, Bhadasi** and gathered some basic information about the project based on the questionnaire attached in this documentation.

QUESTIONNAIRE

Q1. What is the purpose of this system?

Ans. :

Q2. Who will be the user of this system?

Ans. :

Q3. In which language system will be developed?

Ans. :

Q4. What is your immediate need?

Ans. :

Q5. What is your website requirement?

Ans. :

Q6. Deadline of the project?

Ans. :

Q7. What are the goals of your system?

Ans. :

Q8. What are the Admission Form requirements?

Ans. :

Q9. How much cost can you bear for the project infrastructures?

Ans. :

Q10. What type of User-Interface do you want for your school website?? (Decision will be based on the desired prototype)*

Ans. :

EXISTING SYSTEM

In addition to attached questionnaire, developer team has also reviewed the existing system for information purpose and as a result they found specifications mentioned below.

- Currently, the system is totally manual and requires lot of paperwork.
- The manual system is slower than the computerized system.
- It is very time consuming and complex to maintain student records.
- It requires more clerical work and use of more man power.
- The current system is ambiguous and not user-friendly as well.
- Too much ineffective and painful for parents to visit at the location and fill manual form.
- Ineffective process for admin and counselling staff to manage physical admission documents.
- Extra efforts to digitize data which consumes 100s of hours and changes of mistakes.
- Delay in communication to parents about next steps and processes of admission.
- Less number of applicants due to old fashioned manual process.

4.4 Feasibility Study :

After analyzing flaws of existing system developer team identified and understood the need of a better system. Therefore management decides to convert manual system into electronic I.e. Computerization is required. Which could be done by ***Computerized Admission Management System*** which will make the process easier and serves better in terms it also facilitates the work of the school and at the same time it must reduce the work load of the organization with expected quality. Quality in the sense, the system try to avoid the mistakes that are usually happen during the Admission Process.

The project entitled "***Development of School Website and Online Admission Management System***" is a web application and has been developed to override the problems prevailing in the practicing manual system. This web application is supported to eliminate and, in some cases, reduce the hardships faced by the existing system (manual). Moreover, the system is designed for the particular need of the school to carry out operations in a smooth and effective manner.

The system is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. The information can be viewed in Graphical User Interface (GUI) such that easy to understand. No formal knowledge is needed for the user to use this web application. Thus, by this all it proves it is user-friendly. Storing and retrieval of information are so fast that many jobs can be done in respectively lesser time. ***Online Admission Management System***, as described above, can lead to error free, secure, reliable, fast, cost effective and efficient management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. This increases satisfaction level of employees. Having a dynamic system with a bird view of data and reports can give next level of power and quickness in decision-making for principal or management person. Management can generate several reports, which will help him to plan future strategies for organisation behalf. Thus, it will help school in better utilization of resources.

Here for the *“Development of School Website and Online Admission Management System”*, We as team have worked on the preliminary investigation that accomplished the following objectives :

- Clarify and understand the project request.
- Determine the size of the project.
- Determine the technical and operational feasibility of alternative approaches.

Considering above criteria we also keep in mind that the requirements are clearly understood and can be presented when the clarification or verification of project request is inquired.

Signature of Developer(s)

1) **Anish Kumar Sinha**

2) **Sweta Kumari**

3) **Sonu Kumar Kushwaha**

4) **Nihal Priyadarshi**

5. SOFTWARE REQUIREMENTS SPECIFICATION (SRS)

The purpose of this SRS document is to specify the specifications regarding functional and non-functional requirement of the system. It is intended to be a complete specification of what functionality the admission provides.

5.1 Project Perspective :

- i. Automate manual paperwork done at the time of students' admission in the school : As the main aim of the system is to reduce the manual efforts needed for Admission Process, so it automatically reduces the man power requirement to perform the entire task and improve the quality of the work.
- ii. Efficiently manage the student details (to retrieve academic details) : To perform any task, time is one of the most important factors to consider. If the system does not utilize time properly, then the entire purpose of system fails and thus the system fails to reach its goal. So time taken to process all these activities should be less but effective output.

5.2 Project Category :

Domain : Web Application

5.3 Hardware & Software Requirement :

- **Hardware Requirements :** *(Recommended)*

Processor - Intel® Core™ i3 7th Gen 2.3 GHz or above

System Architecture - 64-bit operating system, x64-based processor

RAM - 4.00 GB

HDD/SSD - 128 GB

Keyboard, Monitor, Mouse, Printer

- **Software Requirements :** *(Recommended)*

Operation System - Windows 7 or above, Mac-OS, Linux etc.

Supported Browser - Google Chrome.

- **Tools Used :** *(Recommended)*

Code Editor - Visual Studio Code

UI Designing & Prototyping Software - Figma, Adobe Xd and Adobe Illustrator.

- **Programming Languages and Frameworks Used (Front-end):** *(Recommended)*
 - HTML 5
 - CSS 3
 - JavaScript
 - Bootstrap
- **Technologies Used (Back-end) :** *(Recommended)*
 - Google Firebase
- **Special Requirement :** *(mandatory)*
 - Internet Connection

5.4 Definitions, Acronyms and Abbreviations :

5.4.1 Users of the System :

The product could be mainly used by two categories of people :

- i. Administrator
- ii. Student

5.4.2 Users Characteristics :

Users of the system must have the following categories:

- i. We have two different types of users , first page of the application will show you two different logins : Office Login, Students/Parents Login.
- ii. All users should have some basic computer knowledge.
- iii. **Administrator** should be able to verify all the certificates produced by the students and making sure that the student is registered, lastly finalize the admission profile by allotment of login credentials in his own capacity. Also he has the ultimate power and privilege to update all the databases and all the user related details at any point of time.
- iv. **Student** should be able to provide all the necessary details to get registered for counseling. After allotment of login credentials he should be able to log in to the system and view his admission profile.

5.4.3 Acronyms & Abbreviation :

S No.	Acronyms & Abbreviations	Description
1	RAM	Random Access Memory
2	HDD	Hard Disk Drive
3	SSD	Solid State Drive
4	OS	Operating System
5	UI	User Interface
6	HTML	Hypertext Markup Language
7	CSS	Cascading Style Sheet
8	GUI	Graphical User Interface
9	DB	Database
10	D.O.A	Date Of Admission
11	Y.O.P	Year Of Passing
12	HTTPS	Hypertext Transfer Protocol Secure
13	SRS	Software Requirements Specification
14	SDLC	Software Development Life Cycle
15	URN	Unique Reference Number
16	DFDs	Data Flow Diagrams
17	ADMIN	Administrator

5.5 Product Functions :

- i. It needs to retrieve the data of students from the database when required.
- ii. Stores the allotted students details in the database.
- iii. Providing an understandable and user interactive GUI

5.6 Constraints :

- i. Data cannot be intruded by unauthorized persons.
- ii. Response should be high.
- iii. Parallel access should be allowed.
- iv. Data integrity should be reliable.

5.7 Assumptions and Dependencies :

- i. Student details are already created and information's available for use.
- ii. Roles and responsibilities are already established.
- iii. Administrator is already created.

5.8 Specific Requirements :

- **Functional Requirements**
- **Non - Functional Requirements**

5.8.1 Functional Requirements :

Functional requirements identified for this system are listed below:

- i. Online Admission System contains three phases.
 - a. Application Form Filling and Fee Payment.
 - b. Visit School For Testing.
 - c. Allotment of Credentials

he has to go through from one phase to another.

- ii. The online admission system having a server which can be accessed through some registered systems for counseling and also the details of the students who were registered for admission are stored in a database. All this information is managed by the administrator.
- iii. Admin can also enters/edit the student details which were not available from the database. So here he will enter the Student ID, Admission No., D.O.A, Y.O.P, Status, Password etc.

- iv. Security would be provided by the administrator by assigning login details to all the users of the system (Students).
- v. After the allotment of credentials the details are saved to the database and then by the administrator a printed form of admission profile would be given.
- vi. Student can log in to the system only after the allotment of credentials by the admin.
- vii. After making themselves logged in to school website students can access their admission profile.
- viii. Student can download documents like Syllabus, Class Schedule, Score Card etc.
- ix. If the admin enters the Y.O.P to the admission profile that means the student is passed out from school and details of the student should be saved as an alumni.
- x. Alumni has the access to view their admission profile and download there school leaving certificate.
- xi. Administrator has the permission to delete the details of any students permanently.

5.8.2 Non - Functional Requirements :

Non - Functional requirements identified for this system are listed below:

5.8.2.1 Usability Requirements :

Usability requirements identified for this system are listed below:

- i. A logical interface is essential to make easy use of system, speeding up common tasks.
- ii. The product could be used by two categories of people mainly administrator category and other users.

5.8.2.2 Performance Requirements :

Performance requirements identified for this system are listed below:

- i. The database should be able to accommodate a minimum of 10,000 records of students.
- ii. At any instant the system should support use of multiple users at a time.
- iii. Retrieving of data should be reliable.

5.8.2.3 Reliability :

Some of the attributes identified for the reliability is listed below:

- i. All data storage for user variables will be committed to the database at the time of entry.

5.8.2.4 Portability Requirements :

As it is a server-client model application, so the environment used in server should be used to access it in the client. There may rise a problem of run time error, to avoid that :

- i. Google Firebase is used to develop the product. So it is easiest to port the software in any hardware or software environment.

5.7.2.5 Security Techniques :

Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below :

- i. Every user should be licensed to use the system under any of the two categories provided I.e. either Student or administrator.
- ii. Communication needs to be restricted when the application is validating the user or license. (i.e., using https).

5.9 Software Development Life Cycle Model :

SDLC Model Used - Iterative Waterfall Model

Why?

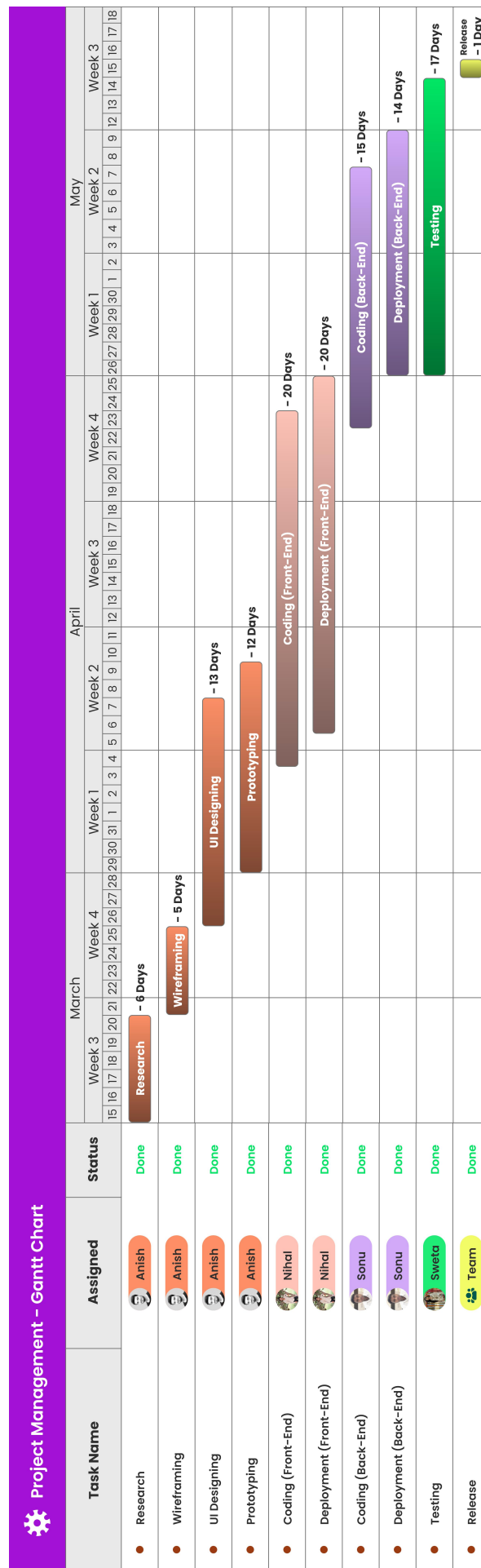
In a practical software development project, the classical waterfall model is hard to use. So, the Iterative waterfall model can be thought of as incorporating the necessary changes to the classical waterfall model to make it usable in practical software development projects. It is almost the same as the classical waterfall model except some changes are made to increase the efficiency of the software development.

The iterative waterfall model provides feedback paths from every phase to its preceding phases, When errors are detected at some later phase, these feedback paths allow correcting errors committed by programmers during some phase. The feedback paths allow the phase to be reworked in which errors are committed and these changes are reflected in the later phases.

Additional Factors Why We Chose Iterative Waterfall Model :

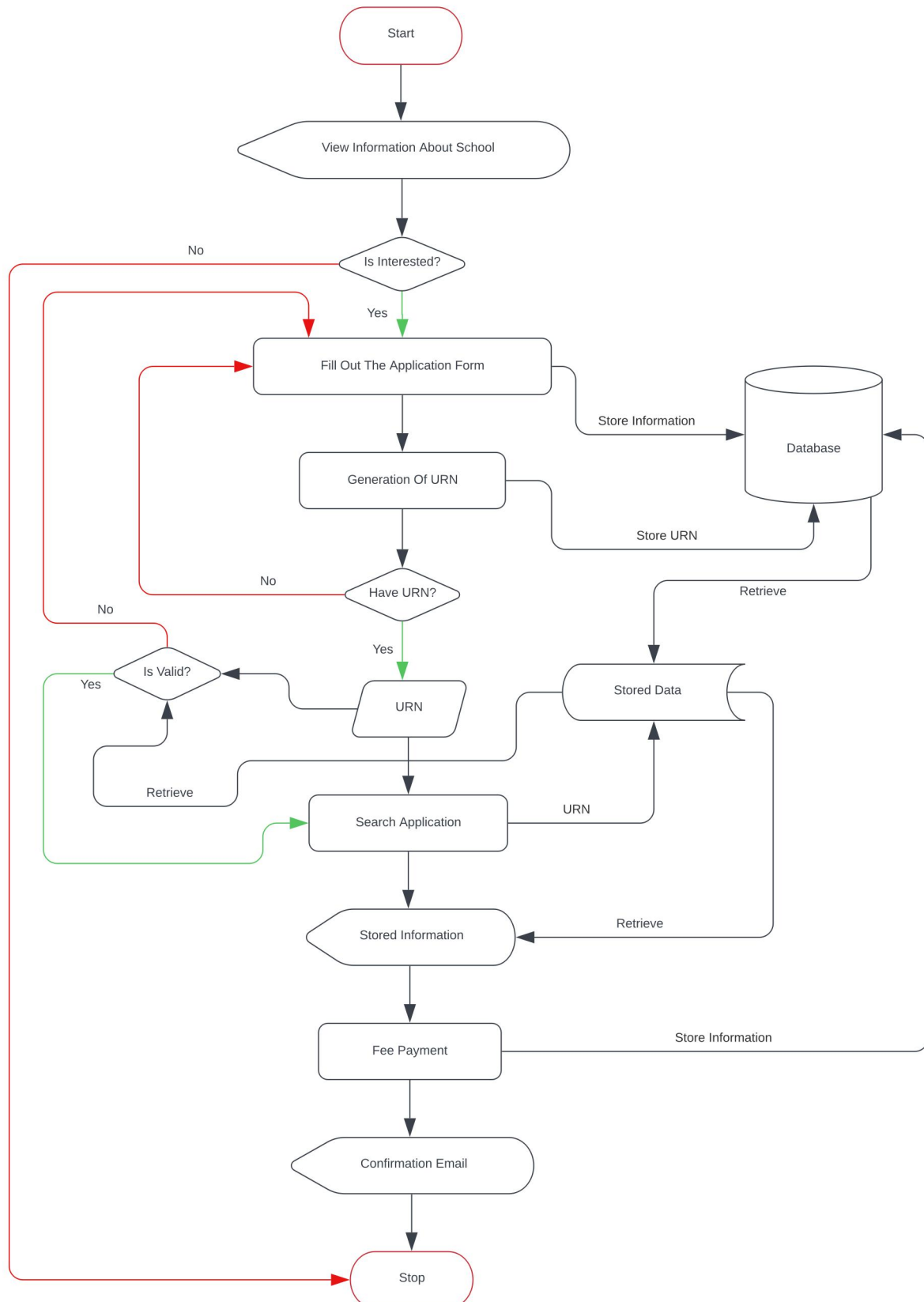
- **Simple –**
Iterative waterfall model is very simple to understand and use. That's why it is one of the most widely used software development models.
- **Cost-Effective –**
It is highly cost-effective to change the plan or requirements in the model. Moreover, it is best suited for agile organizations.
- **Well-organized –**
In this model, less time is consumed on documenting and the team can spend more time on development and designing.

5.10 Gantt Chart :

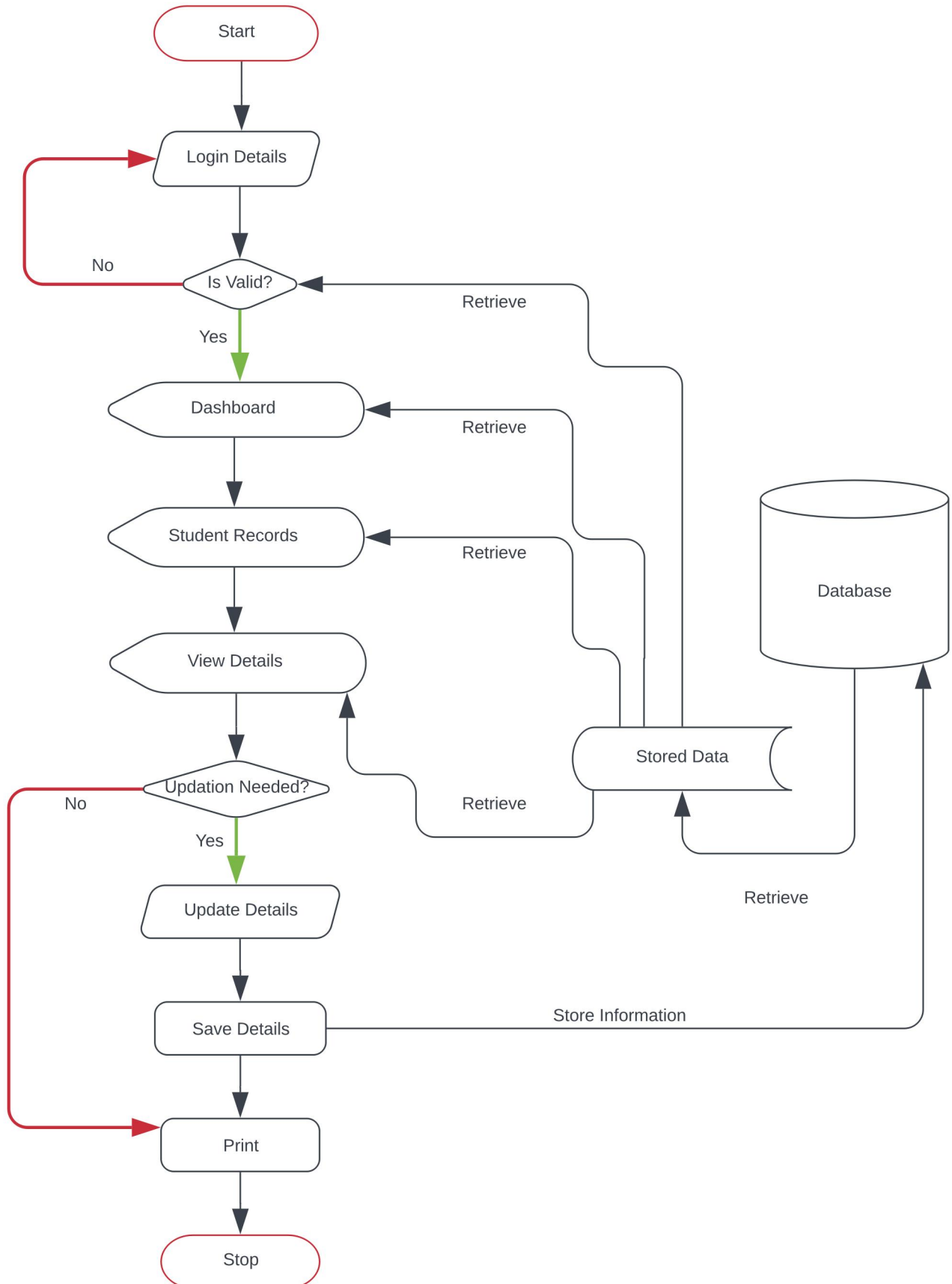


5.11 System Flowcharts :

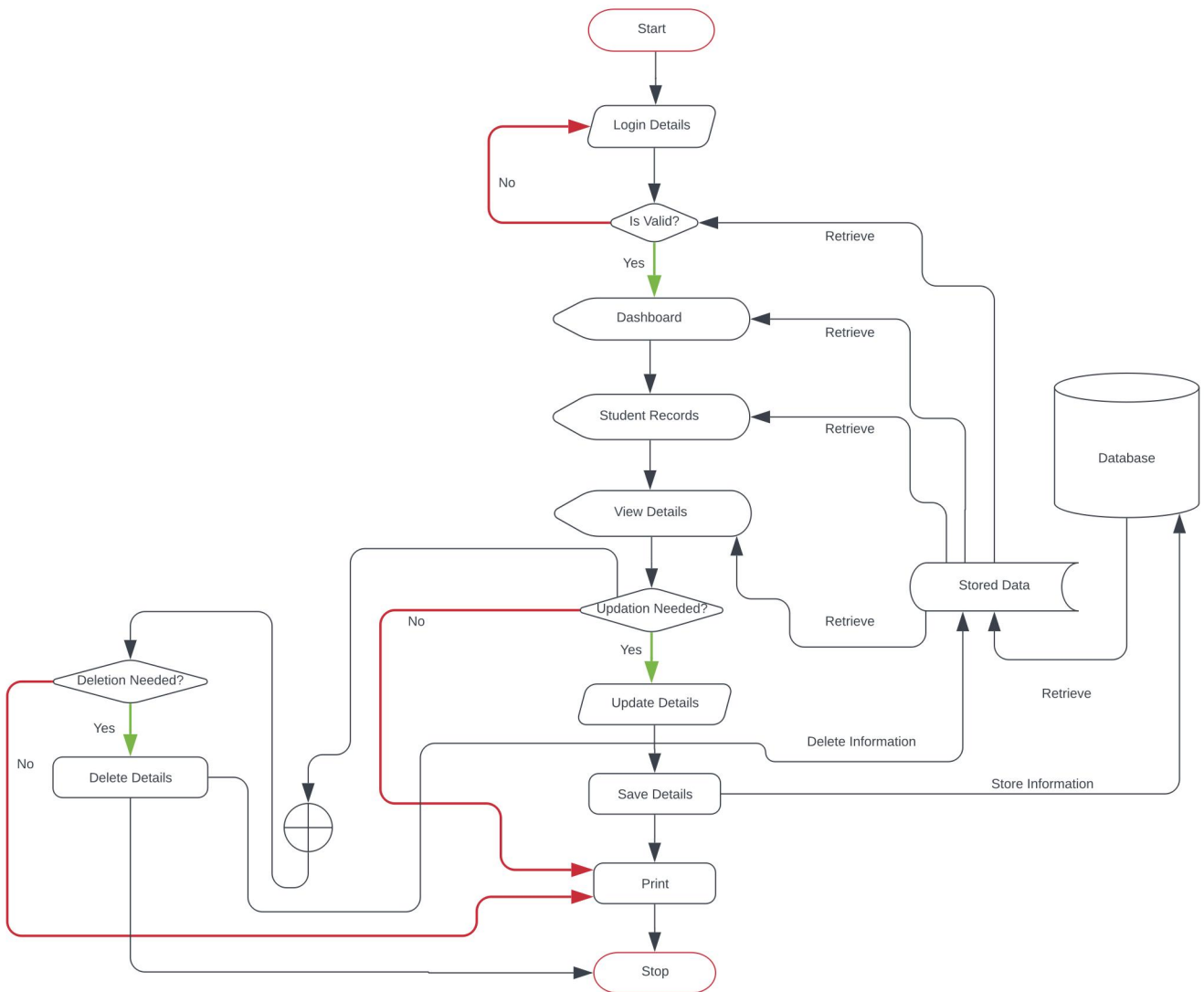
5.11.1 ADMISSION FLOWCHART FOR STUDENT



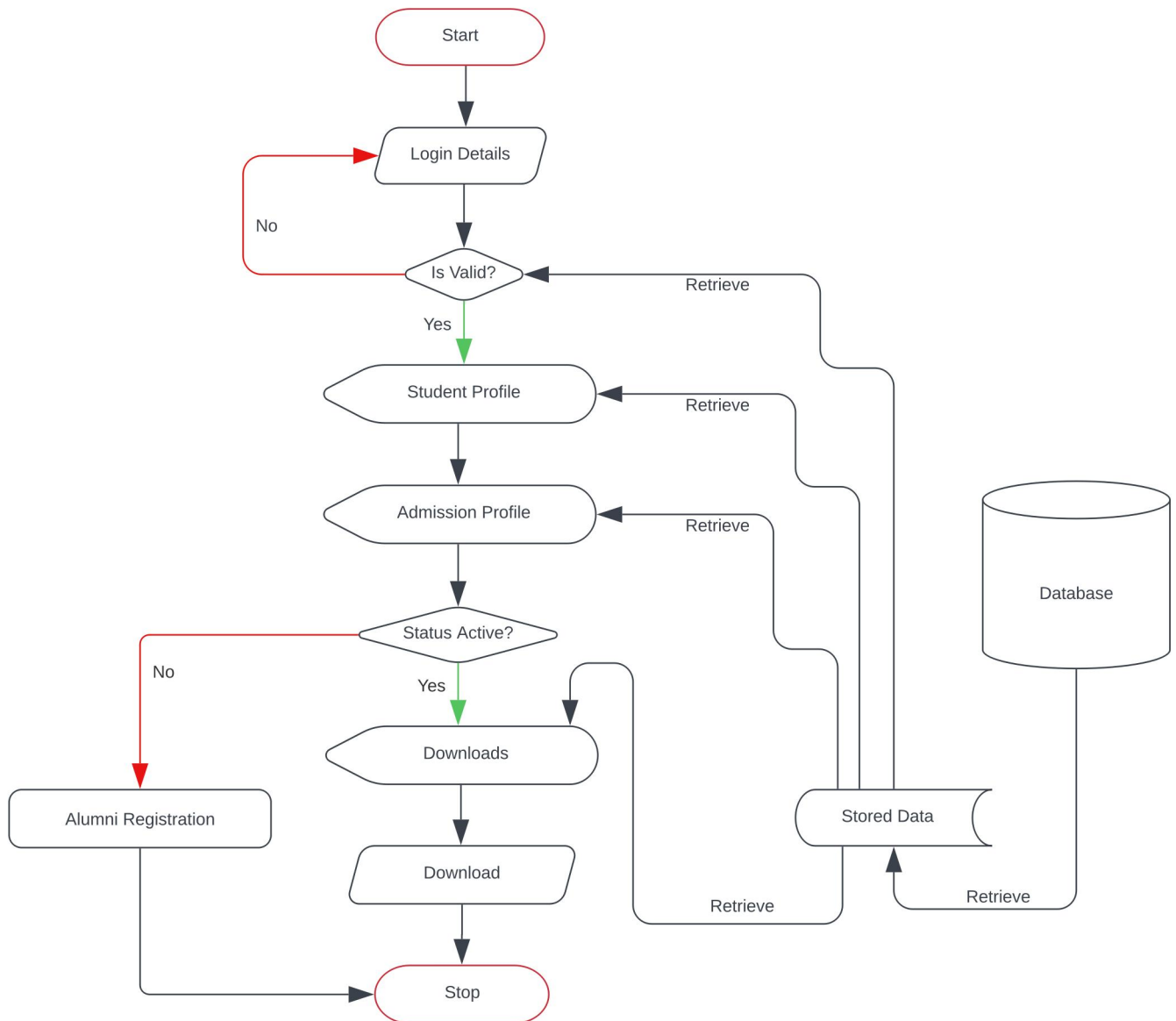
5.11.2 ADMISSION FLOWCHART FOR ADMIN



5.11.3 FLOWCHART FOR ADMIN LOGIN



5.11.4 FLOWCHART FOR STUDENT LOGIN



5.12 Process Algorithms :

5.12.1 PROCESS ALGORITHM FOR ADMISSION (STUDENT)

Step 1: Start

5.12.2 PROCESS ALGORITHM FOR ADMISSION (ADMIN)

Step 1: Start

5.12.3 PROCESS ALGORITHM FOR STUDENT LOGIN

Step 1 : Start

5.12.4 PROCESS ALGORITHM FOR ADMIN LOGIN

Step 1: Start

5.13 Process Descriptions :

5.13.1 PROCESS DESCRIPTION FOR ADMISSION (STUDENT)

Step 1: Start

5.13.2 PROCESS DESCRIPTION FOR ADMISSION (ADMIN)

Step 1: Start

5.13.3 PROCESS DESCRIPTION FOR STUDENT LOGIN

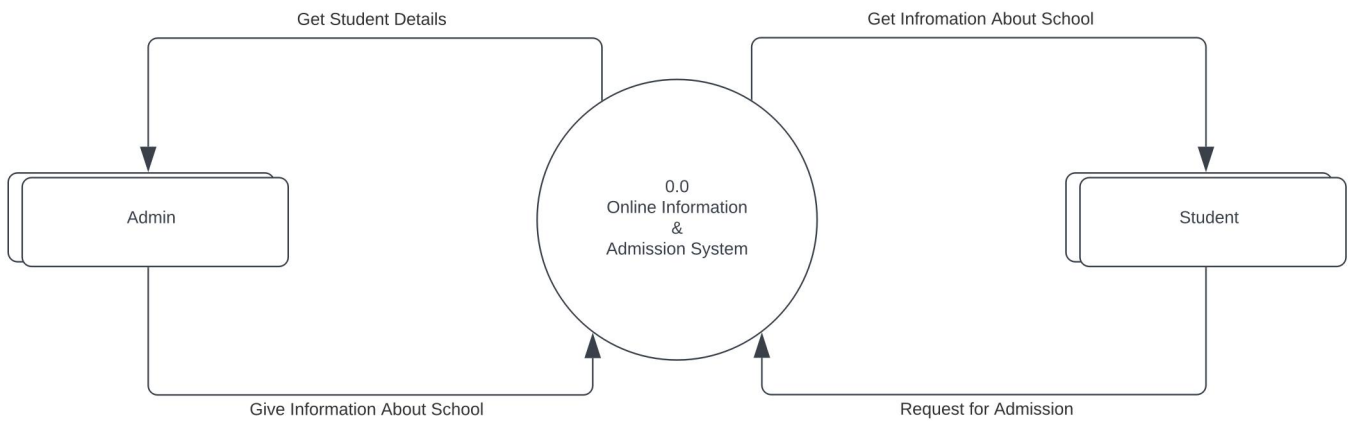
Step 1: Start

5.13.4 PROCESS DESCRIPTION FOR ADMIN LOGIN

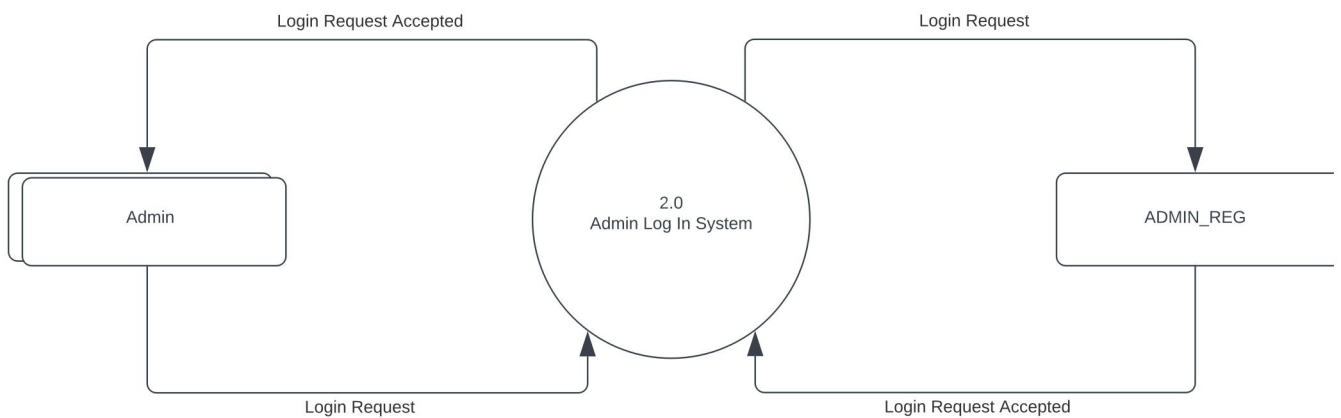
Step 1: Start

5.14 Data Flow Diagrams (DFDs) :

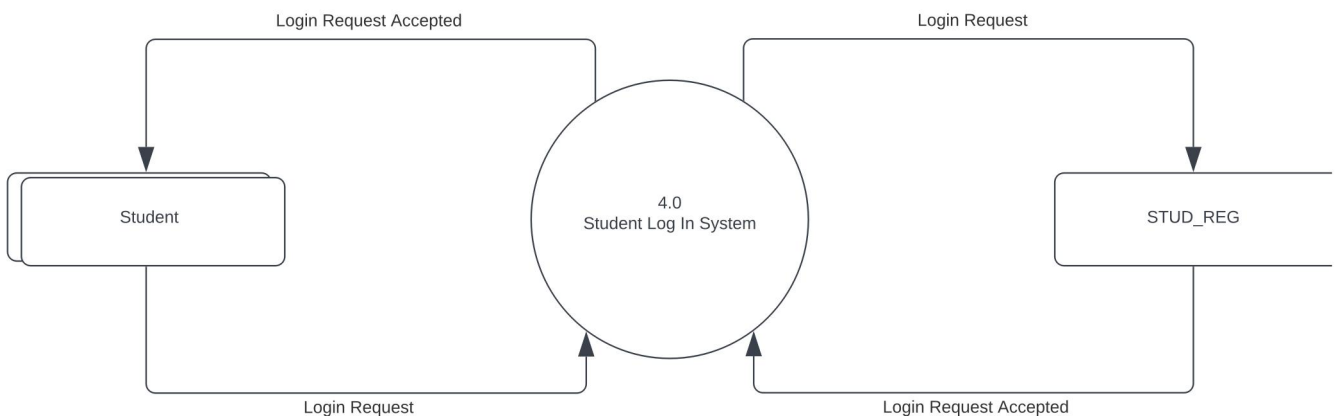
5.14.1 CONTEXT (0) LEVEL DFD FOR ADMISSION



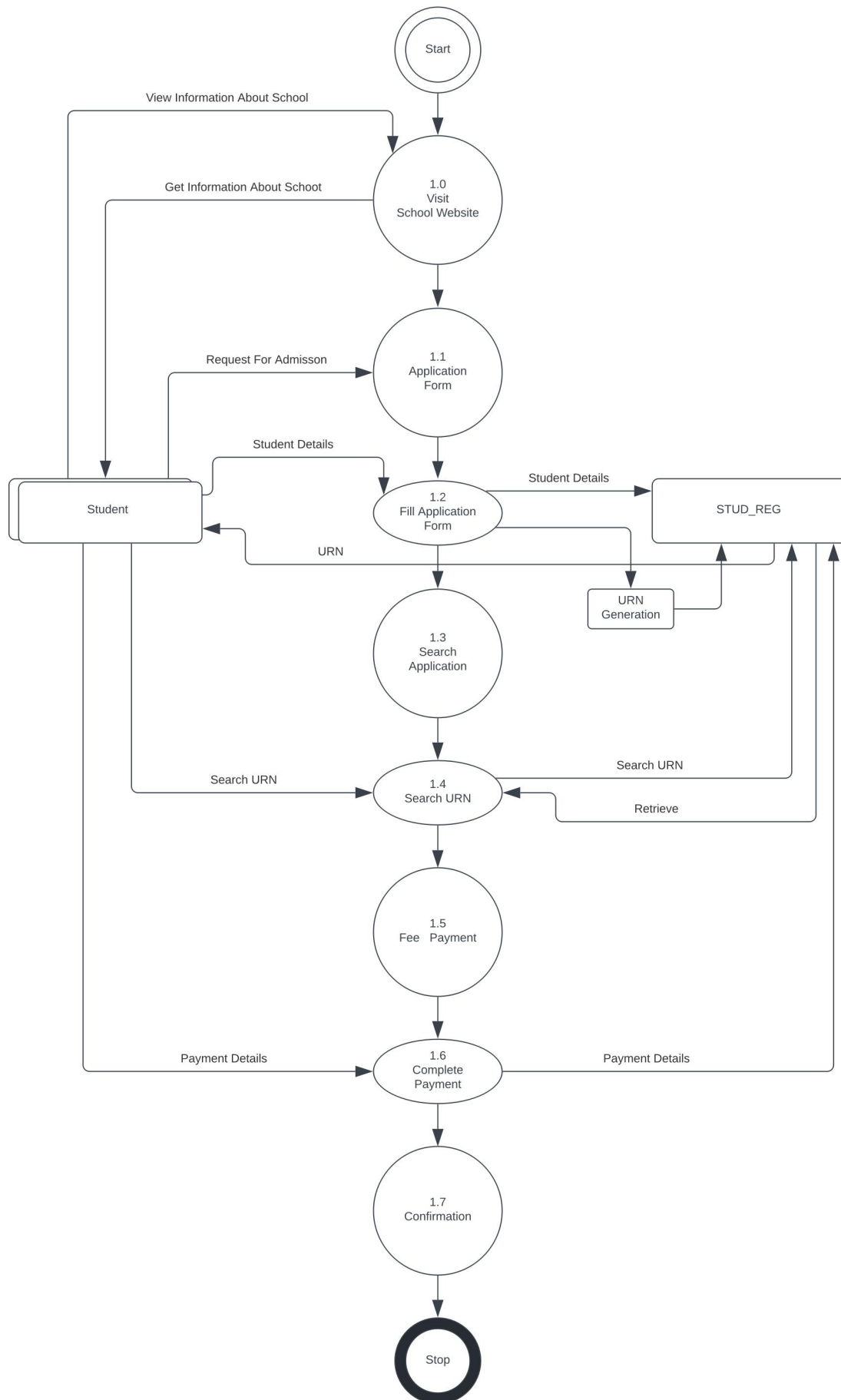
5.14.2 CONTEXT (0) LEVEL DFD FOR LOGIN (ADMIN)



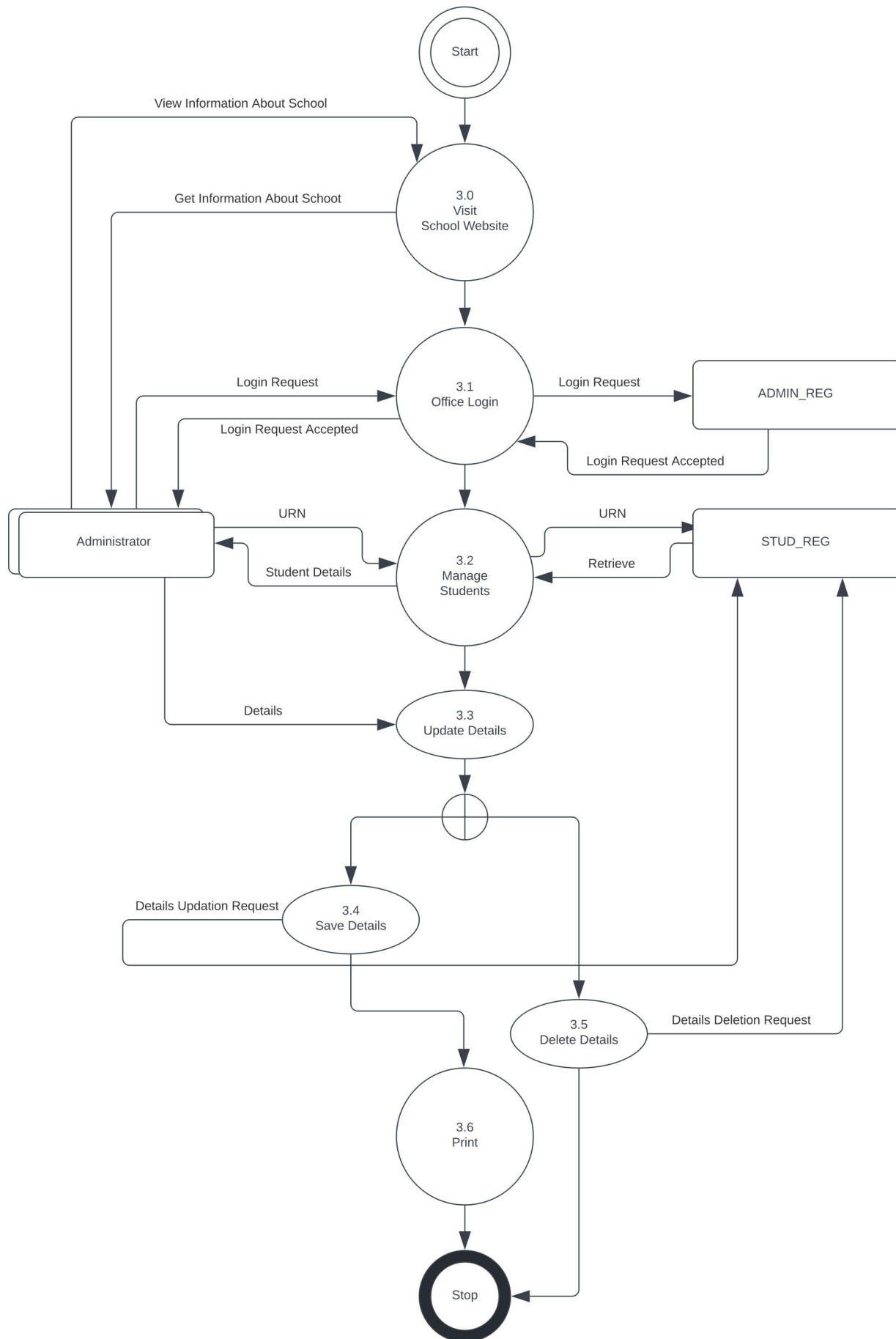
5.14.3 CONTEXT (0) LEVEL DFD FOR LOGIN (STUDENT)



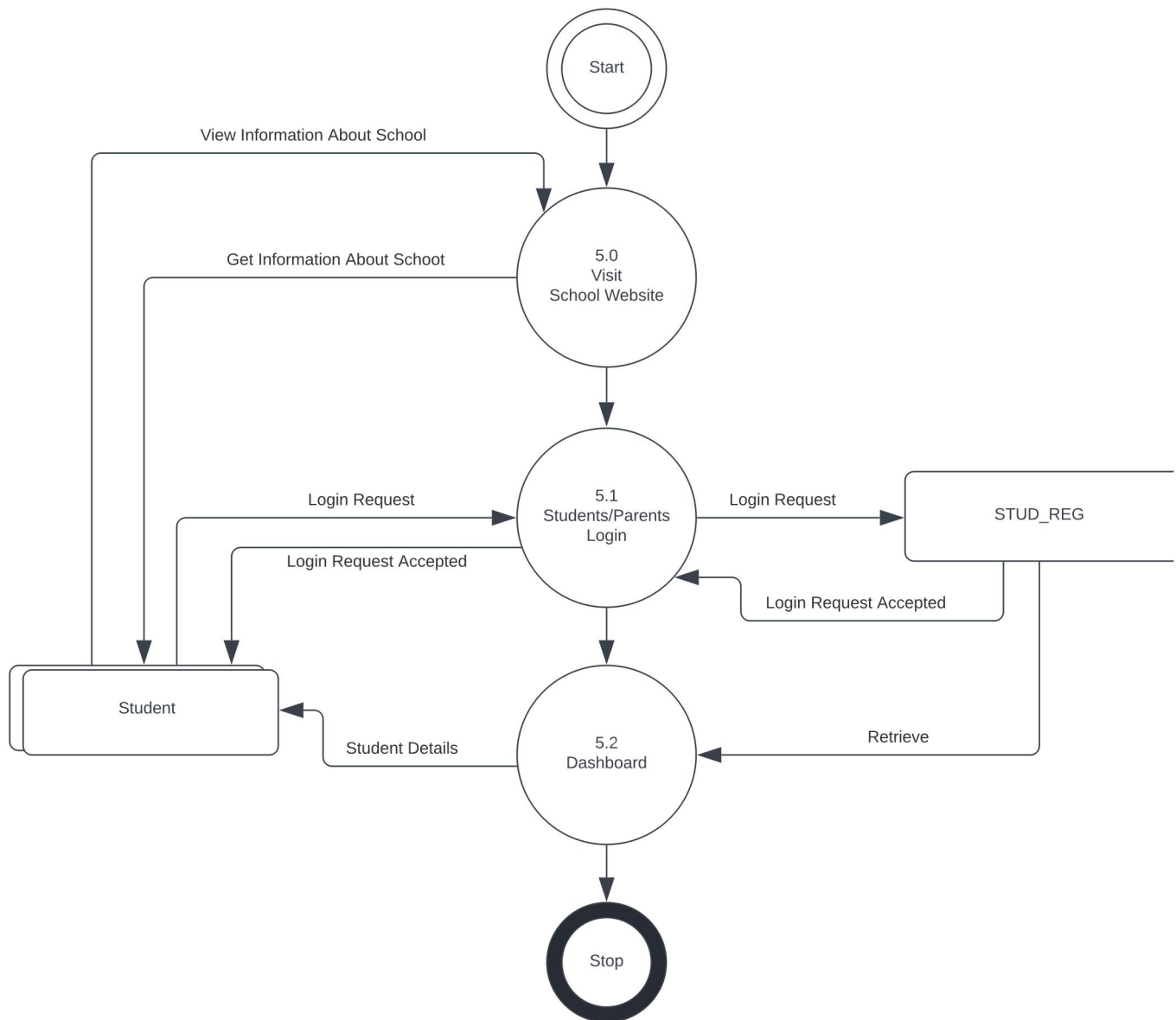
5.14.4 LEVEL 1 DFD FOR ADMISSION (STUDENT)



5.14.5 LEVEL 1 DFD FOR LOGIN (ADMIN)



5.14.6 LEVEL 1 DFD FOR LOGIN (STUDENT)



5.13 E-R Diagram :