

A PROJECT REPORT ON

YOUR AWESOME PROJECT REPORT TITLE GOES HERE

**SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE
IN THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE**

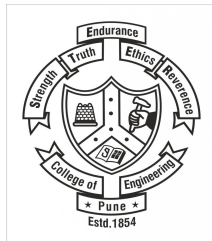
**BACHELOR OF ENGINEERING
(Computer Engineering)**

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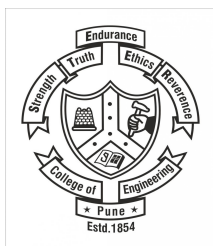
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2021 - 2022



CERTIFICATE

This is to certify that the Project Entitled
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PROJECT APPROVAL SHEET

The Project Report Entitled as

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is verified for its originality in documentation, problem statement, proposed work and implementation successfully completed by

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ACKNOWLEDGEMENT

It gives us immense pleasure in presenting the preliminary project report on
”**YOUR AWESOME PROJECT REPORT TITLE GOES HERE**”.

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ABSTRACT

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

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Chapter 1

Synopsis

1.1 Project Title

YOUR AWESOME PROJECT REPORT TITLE GOES HERE.

1.2 Project Option

Industry Sponsored/ Entrepreneur/ Internal Project.

1.3 Internal Guide

Prof. Guide's name

1.4 Technical Keywords (as per ACM Keywords)

1. Keyword
2. Keyword
3. Keyword
4. Keyword
5. Keyword
6. Keyword

1.5 Problem Statement

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1.6 Goals and Objectives :

- Point
- Point
- Point
- Point
- Point

1.7 Relevant Mathematics associated with the Project

Mathematical model of the system.

System Description :

Input :

Output :

Functions : Identify Objects, Morphisms, Overloading in functions, Functional relations.

Success Condition :

Failure Condition :

1.8 Names of Conferences/ Journals where papers can be published :

- IEEE/ACM Conference/Journal 1
- Conferences/workshops in IITs
- Central Universities or SPPU Conferences
- IEEE/ACM Conference/Journal 2

1.9 Review of Conference/ Journal Papers supporting project idea

Atleast 10 papers + White papers or web references.

Brief literature survey [Description containing important description of at least 10 papers

1.10 Plan of Project Execution

Using planner or alike project management tool.

Chapter 2

Technical Keywords

2.1 Area of Project

Machine Learning/ Web Application, etc.

2.2 Technical Keywords

1. Keyword
2. Keyword
3. Keyword
4. Keyword
5. Keyword
6. Keyword

Chapter 3

Introduction

3.1 Project Idea

Project Idea.

3.2 Motivation of the Project

Motivation of the Project.

3.3 Literature Survey

Review of papers, Description, Mathematical Terms.

Chapter 4

Problem Definition and Scope

4.1 Problem Statement

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4.1.1 Goals and Objectives

Overall goals and objectives of software, input and output description with necessary syntax, format etc are described.

4.1.2 Statement of Scope

A description of the software with Size of input, bounds on input, input validation, input dependency, i/o state diagram, Major inputs, and outputs are described without regard to implementation detail.

The scope identifies what the product is and is not, what it will and won't do, what it will and wont contain.

4.1.3 Software Context

The business or product line context or application of the software is to be given.

4.2 Major Constraints

Any constraints that will impact the manner in which the software is to be specified, designed, implemented or tested are noted here.

4.3 Methodologies of Problem solving and efficiency Issues

The single problem can be solved by different solutions. This considers the performance parameters for each approach. Thus considers the efficiency issues.

4.4 Outcome

Outcome of the Project.

4.5 Applications

- Application 1
- Application 2

4.6 Hardware Resources Required

Sr No.	Parameters	Min. Requirement	Justification
1	CPU Speed	2 GHz	Remark Required
2	RAM	2 GB	Remark Required

Table 4.1: Hardware Requirements

4.7 Software Resources Required

Platform : Microsoft Windows.

Operating System : Windows 7 or higher.

IDE : Pycharm, Netbeans, etc.

Programming Languages : Python, Java, etc.

Chapter 5

Project Plan

5.1 Project Estimates

Use Waterfall model and associated streams derived from assignments 1,2, 3, 4 and 5(Annex A and B) for estimation.

5.1.1 Reconciled Estimates

5.1.1.1 Cost Estimate

5.1.1.2 Time Estimate

5.1.2 Project Resources

Project resources [People, Hardware, Software, Tools and other resources] based on Memory Sharing, IPC, and Concurrency derived using appendices to be referred.

5.2 Risk Management w.r.t. NP Hard analysis

This section discusses Project risks and the approach to managing them.

5.2.1 Risk Identification

For risks identification, review of scope document, requirements specifications and schedule is done. Answers to questionnaire revealed some risks. Each risk is categorized as per the categories mentioned in [1]. Please refer table 5.1 for all the risks.

You can refereed following risk identification questionnaire.

1. Have top software and customer managers formally committed to support the project?
2. Are end-users enthusiastically committed to the project and the system/product to be built?
3. Are requirements fully understood by the software engineering team and its customers?
4. Have customers been involved fully in the definition of requirements?
5. Do end-users have realistic expectations?
6. Does the software engineering team have the right mix of skills?
7. Are project requirements stable?
8. Is the number of people on the project team adequate to do the job?
9. Do all customer/user constituencies agree on the importance of the project and on the requirements for the system/product to be built?

5.2.2 Risk Analysis

The risks for the Project can be analyzed within the constraints of time and quality.

ID	Risk Description	Probability	Impact		
			Schedule	Quality	Overall
1	Description 1	Low	Low	High	High
2	Description 2	Low	Low	High	High

Table 5.1: Risk Table

Probability	Value	Description
High	Probability of occurrence is	> 75%
Medium	Probability of occurrence is	26 – 75%
Low	Probability of occurrence is	< 25%

Table 5.2: Risk Probability Definitions

Impact	Value	Description
Very High	> 10%	Schedule Impact or Unacceptable Quality.
High	5 – 10%	Schedule Impact or some parts of the Project have Low Quality.
Medium	< 5%	Schedule Impact or barely noticeable degradation in Quality Low Impact on Schedule or Quality can be incorporated.

Table 5.3: Risk Impact Definitions

5.2.3 Overview of Risk Mitigation, Monitoring, Management.

Following are the details for each risk.

Risk ID :	1
Risk Description :	Description 1
Category :	Development Environment
Source :	Software Requirement Specification Document
Probability :	Low
Impact :	High
Response :	Mitigate
Strategy :	Strategy desc.
Risk Status :	Rarely Occurred

Risk ID :	2
Risk Description :	Description 2
Category :	Requirements
Source :	Software Design Specification Document Review
Probability :	Low
Impact :	High
Response :	Mitigate
Strategy :	Strategy desc.
Risk Status :	Occurred

Risk ID :	3
Risk Description :	Description 3
Category :	Technology
Source :	Early stages of Development & Testing
Probability :	Low
Impact :	Very High
Response :	Accept
Strategy :	Strategy desc.
Risk Status :	Identified

5.3 Project Schedule

5.3.1 Project Task Set

Major Tasks in the Project stages are :

- Task 1 : Requirement Gathering
- Task 2 : Literature Survey
- Task 3 : Mathematical Modelling
- Task 4 : Feasibility Testing
- Task 5 : UML Diagrams
- Task 6 : Database Design
- Task 7 : GUI Design
- Task 8 : Functionality Implementation
- Task 9 : Testing
- Task 10 : Reporting

5.3.2 Task Network

Project tasks and their dependencies are noted in this diagrammatic form shown below.
DIAGRAM (1)

5.3.3 Timeline Chart

A project timeline chart is presented. This may include a time line for the entire project. Above points should be covered in Project Planner as Annex C and you can mention here Please refer Annex C for the planner.

Activities	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Group Formation												
Domain Submission												
Title Submission												
Title Finalization												
Guide Allocation												
Literature Survey												
Synopsis Submission												
SRS & UML Diagrams												
Other Assignments												
Preliminary Report Preparation												
Submission												

Table 5.4: Timeline Chart

5.4 Team Organisation

The manner in which staff is organized and the mechanisms for reporting are noted.

Sr. No.	Name	Organization
1	Student 1	Development
2	Student 2	Testing
3	Student 3	Requirement Gathering
4	Student 4	Reporting

Table 5.5: Team Organisation

5.4.1 Team structure

The team structure for the project is identified. Roles are defined.

Group Members	Student 1
	Student 2
	Student 3
	Student 4
Guide	Prof. Guide's Name

Table 5.6: Team Structure

5.4.2 Management reporting and communication

Mechanisms for progress reporting and inter/intra team communication are identified as per assessment sheet and lab time table.

Chapter 6

**Software Requirement Specification
(SRS to be prepared using relevant
Mathematics derived and Software
Engineering Indicators in Annex. A
and B.)**

6.1 Introduction

6.1.1 Purpose and Scope of the Document

The purpose of SRS and what it covers is to be stated.

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6.1.2 Overview of responsibilities of Developer

What all activities carried out by developer?

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6.2 Usage Scenario

This section provides various usage scenarios for the system to be developed.

6.2.1 User Profiles

The profiles of all user categories are described here.(Actors and their Description)

6.2.2 Use-cases

All use-cases for the software are presented. Description of all main Use cases using use case template is to be provided.

Sr. No.	Use Case	Description	Actors	Assumptions
1	Use Case 1	Description	Actors	Assumption
2	Use Case 2	Description	Actors	Assumption
3	Use Case 3	Description	Actors	Assumption
4	Use Case 4	Description	Actors	Assumption

Table 6.1: Use Case Table

6.2.3 Use-case View

Use-Case Diagram is displayed below.

DIAGRAM (1)

6.3 Data Model and Description

6.3.1 Data Description

Data objects that will be managed/manipulated by the software are described in this section. The database entities or files or data structures required to be described. For data objects details can be given as below.

6.3.2 Data Objects and Relationships

Data objects and their major attributes and relationships among data objects are described using an ERD- like form.

6.4 Functional Model and Description

6.4.1 Data Flow Diagram

A description of each major software function, along with data flow (structured analysis) or class hierarchy (Analysis Class diagram with class description for object oriented system) is presented.

DIAGRAM (1)

6.4.1.1 Level 0 Data Flow Diagram

DIAGRAM (1)

6.4.1.2 Level 1 Data Flow Diagram

DIAGRAM (1)

6.4.2 Description of functions

A description of each software function is presented. A processing narrative for function n is presented.(Steps)/ Activity Diagrams. For Example Refer 6.2

DIAGRAM (1)

6.4.3 Activity Diagram

The Activity diagram represents the steps taken.

DIAGRAM (1)

6.4.4 Non-Functional Requirements

1. Interface Requirements
2. Performance Requirements
3. Software quality attributes such as availability [related to Reliability], modifiability includes portability, reusability, scalability , performance, security, testability and usability[includes self adaptability and user adaptability]

6.4.5 State Diagram

State Transition Diagram Fig.6.3 example shows the state transition diagram of Cloud SDK. The states are represented in ovals and state of system gets changed when certain events occur. The transitions from one state to the other are represented by arrows. The Figure shows important states and events that occur while creating new project. DIAGRAM (1)

6.4.6 Design Constraints

Any design constraints that will impact the subsystem are noted.

6.4.7 Software Interface Description

The software interface(s) to the outside world is(are) described. The requirements for interfaces to other devices/systems/networks/human are stated. DIAGRAM (1)

Chapter 7

Detailed Design Document using Appendix A and B

7.1 Introduction

This document specifies the design that is used to solve the problem of Product.

7.2 Architectural Design

A description of the program architecture is presented. Subsystem design or Block diagram, Package Diagram, Deployment diagram with description is to be presented. DIAGRAM (1)

7.3 Data Design

A description of all data structures including internal, global, and temporary data structures, database design (tables), file formats.

7.3.1 Internal software data structure

Data structures that are passed among components the software are described.

7.3.2 Global data structure

Data structured that are available to major portions of the architecture are described.

7.3.3 Temporary data structure

Files created for interim use are described.

7.3.4 Database description

Database(s) / Files created/used as part of the application is(are) described.

7.4 Component Design

Class diagrams, Interaction Diagrams, Algorithms. Description of each component description required.

7.4.1 Class Diagram

DIAGRAM (1)

Chapter 8

Project Implementation

8.1 Introduction

Introduction.

8.2 Tools and Technologies used

Brief about Tools and Technologies used.

8.2.1 Tools

tools DIAGRAMS (n)

8.2.2 Technologies

technologies. DIAGRAMS (n)

8.3 Methodologies/ Algorithm used

8.3.1 Methodologies

Methodologies. DIAGRAMS (n)

8.3.2 Algorithm

Algorithm. DIAGRAMS (n)

8.4 Verification and Validation for Acceptance Testing

(Below are the examples)

8.4.1 Hardware Failure

data.

8.4.2 Streaming Data Access

data.

8.4.3 Large Data Sets

data.

8.4.4 Simple Coherency Model

data.

Chapter 9

Testing

9.1 Type of Testing Used

9.1.1 Module Level Testing

We can design the various modules for any software and each module contains the small part of the code. If the error will be found at any module, then it encourages the programmer to search and rectify that error without disturbing the other modules.

9.1.2 Function Testing

The prime objective of Functional testing is checking the functionalities of the software system. It mainly concentrates on Mainline functions: Testing the main functions of an application. Basic Usability: It involves basic usability testing of the system. It checks whether an user can freely navigate through the screens without any difficulties. Accessibility: Checks the accessibility of the system for the user Error Conditions: Usage of testing techniques to check for error conditions. It checks whether suitable error messages are displayed.

9.1.3 System Testing

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and ows, emphasizing pre-driven process links and integration points.

9.2 Test Cases and Test Results

TC ID	TC Name	Steps	Expected Output	Actual Output	Test Status (Pass/Fail)	Test Priority (High/Low)
1						
2						
3						
4						
5						

Figure 9.1: Test Cases

Chapter 10

Outputs/ Results

DIAGRAMS (n)

Chapter 11

Conclusion and Future Scope

11.1 Conclusion

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11.2 Future Scope

- Point
- Point
- Point
- Point

References

References

Annexure A

Laboratory Assignments on Project Analysis of Algorithmic Design.

To develop the problem under consideration and justify feasibility using concepts of knowledge canvas and IDEA Matrix.

I	D	E	A
Increase	Drive	Educate	Accelerate
Improve	Deliver	Evaluate	Associate
Ignore	Decrease	Eliminate	Avoid

Table A.1: IDEA Matrix

- **Feasibility Study :** The main aim of feasibility study is to check if indexing of keywords are processed properly. The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the accuracy of authentication in the system. Feasibility study also involves for time complexity of system.
- **Options Assessed :** In absence of failure of authentication User cannot proceed data from the System.
- **Technical Feasibility :** Technical feasibility assesses whether given system can be developed with the technology that is currently available in the technical marketplace. It finds out technical requirements of the proposed system and matches them against the technical expertise available within the organization. The analysts determine whether the in-house technical capabilities need to be upgrade or new technical resources can be hired to fulfill the technical requirements of the project.
- **Economic Feasibility :** Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. More commonly known as Cost / Benefit analysis, the procedure is to determine the benefits and savings that are expected from a proposed system and compare them with costs. If benefits outweigh costs, a decision is taken to design and implement the system. Otherwise, further justification or alternative in the proposed system will have to be made if it is to have a chance of being approved. This is an outgoing effort that improves in accuracy at each phase of the system life cycle.
- **Operational Feasibility :** This is mainly related to human organizational aspects. The points to be considered are: This feasibility study is carried out by a small group of people who are familiar with information system technique and are skilled in system analysis and design process.

Annexure B

Laboratory Assignments on Project Quality and Reliability Testing of Project Design.

- Use of divide and conquer strategies to exploit distributed/parallel/concurrent processing of the above to identify object, morphisms, overloading in functions (if any), and functional relations and any other dependencies (as per requirements). It can include Venn diagram, state diagram, function relations, i/o relations; use this to derive objects, morphism, overloading
- Use of above to draw functional dependency graphs and relevant Software modeling methods, techniques including UML diagrams or other necessities using appropriate tools.
- Testing of project problem statement using generated test data (using mathematical models, GUI, Function testing principles, if any) selection and appropriate use of testing tools, testing of UML diagram's reliability. Write also test cases [Black box testing] for each identified functions. You can use Mathematica or equivalent open source tool for generating test data.

B.1 Mathematical Equation

Equations.

B.2 Sequence Diagram

DIAGRAM (1)

B.3 Deployment Diagram

DIAGRAM (1)

Annexure C

Project Plan.

Project Plan can be created using planner or alike project management tool, we have used Microsoft Excel to create one.

No.	Tasks	Q3			Q4			Q1			Q2		
		Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	Requirement Gathering												
2	Literature Survey												
3	Mathematical Modelling												
4	Feasibility Testing												
5	UML Diagrams												
6	Database Design												
7	GUI Design												
8	Functionality Implementation												
9	Testing												
10	Reporting												

Figure C.1: Project Plan

Annexure D

Reviewer's Comments on Submitted Paper.

1. Paper Title : Your Awesome Project Report Title
2. Name of the Conference/Journal where paper submitted :
3. Paper Accepted/Rejected : Accepted.
4. Review comments by reviewer : -
5. Corrective actions if any : -

Annexure E

Plagiarism Report.

Plagiarism report as stated by the website

<https://searchenginereports.net/plagiarism-checker> for each module :

1. Abstract
2. Synopsis
3. Introduction
4. Problem Definition and Scope
5. Project Plan
6. Software Requirement Specification

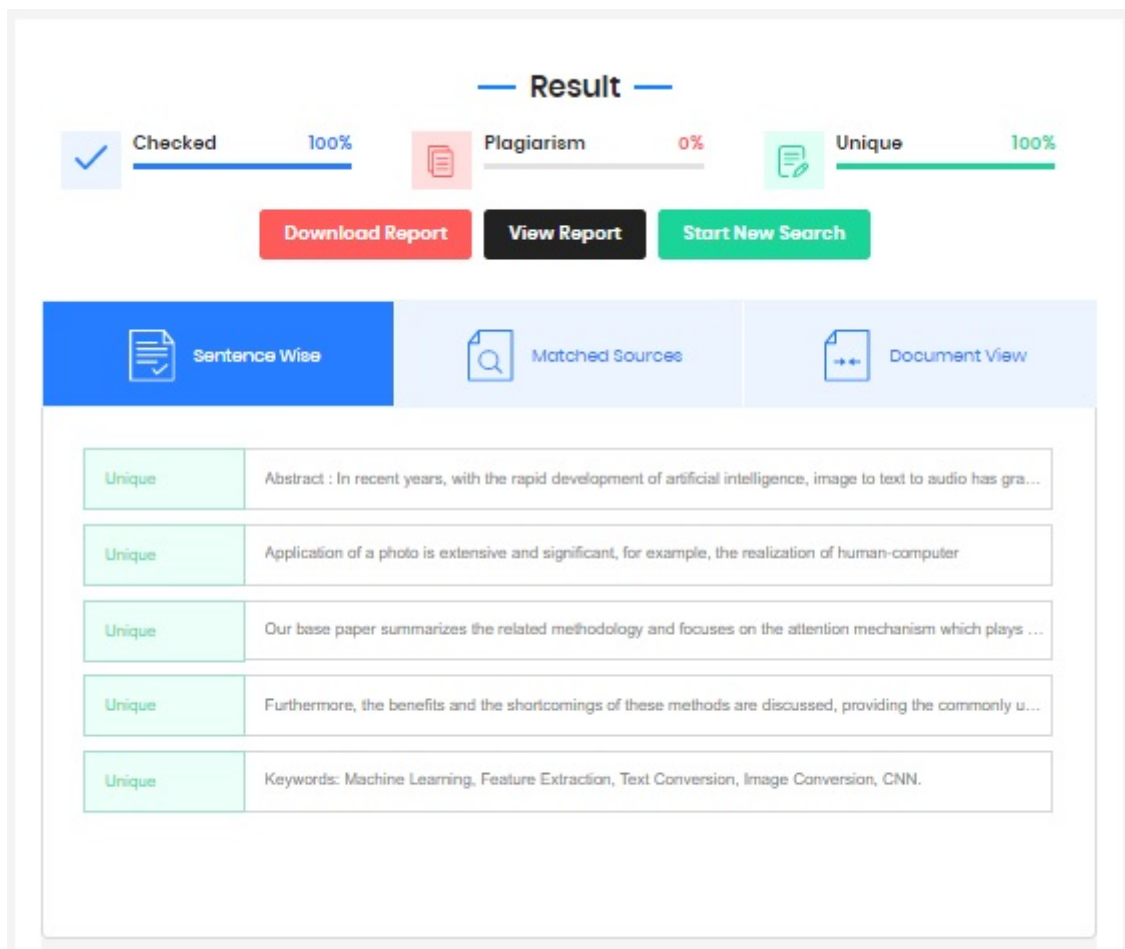


Figure E.1: Plagiarism Report

Annexure F

TERM-II Project Laboratory Assignments.

F.1 Software(s) Installation

Software 1:

Step 1 :

Step 2 :

Step 3 :

Software 2:

Step 1 :

Step 2 :

Step 3 :

F.2 GUI/Interface

GUI is developed using HTML5 and CSS.

F.3 Test Cases

TC ID	TC Name	Steps	Expected Output	Actual Output	Test Status (Pass/Fail)	Test Priority (High/Low)
1						
2						
3						
4						
5						

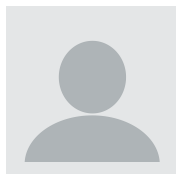
Figure F.1: Test Cases

Annexure G

Information of Project Group Members.

Below are the details of the project group members :

Student 1 Details :



Name : Student 1

Address : Pune, Maharashtra.

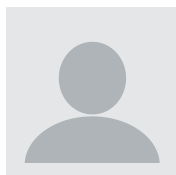
Mobile no. : +91 9876543210

E-mail : student1email@gmail.com

Birthdate : 20/10/2000

Placement Details : NVIDIA Graphics Pvt. Ltd.

Student 2 Details :



Name : Student 2

Address : Pune, Maharashtra.

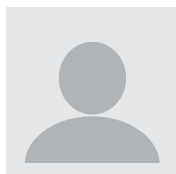
Mobile no. : +91 9876543210

E-mail : student1email@gmail.com

Birthdate : 20/10/2000

Placement Details : NVIDIA Graphics Pvt. Ltd.

Student 3 Details :



Name : Student 3

Address : Pune, Maharashtra.

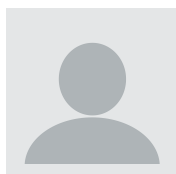
Mobile no. : +91 9876543210

E-mail : student1email@gmail.com

Birthdate : 20/10/2000

Placement Details : NVIDIA Graphics Pvt. Ltd.

Student 4 Details :



Name : Student 4

Address : Pune, Maharashtra.

Mobile no. : +91 9876543210

E-mail : student1email@gmail.com

Birthdate : 20/10/2000

Placement Details : NVIDIA Graphics Pvt. Ltd.