

**Project Name- STUDENT-PERFORMANCE CALCULATOR**

**COURSE NAME-** Software Engineering

**COURSE CODE-** CSE404

**Submitted to**

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**Letter of Transmittal**

Md. Rakib Hossain

Senior Lecturer**,**

Dept. of Computer Science and Engineering,

University of Liberal Arts, Bangladesh.

6th December 2018.

Honorable Sir,

You have prepared the enclosed report on Software Requirements Specification of Student Performance Calculator for your approval. This report details the requirements we gathered for the project.

The primary purpose of this document is creating SRS report for the project we are doing for our Software Engineering course (CSE 404). This report includes the details of each steps we followed to collect the requirements.

Sincerely Yours,

Apurba Sarkar (151014003)

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**ACKNOWLRDGEMENT**

You would like to express our deepest appreciation to all those who provided us the possibility to complete this report.  A special gratitude we give to our project supervisor and course teacher, Md. Rakib Hossain, whose contributions in stimulating suggestions, inspirations and encouragement helped us to coordinate our project especially in writing this SRS report.

Furthermore you would also like to acknowledge with much appreciation the crucial role of our, Md. Rakib Hossain, for giving us so much time in the term of data collection. You have to appreciate the guidance given by everyone as well as all of our friends, without them this project would not have been possible.

**EXECUTIVE SUMMARY**

Student performance calculator will calculate the performances of a student throughout his entire undergraduate level and will help to identify their performance level as like their cumulative grade point that might help them to give better performance as a student. In our project there will be two different parts. One is administration part another is student part. Administration part will be a desktop application. The administrator will be able to insert update or delete data in the database and manage every required information to calculate the performance. And the student part will be a mobile application where student will log in and see their performance grade.

Revision History

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| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **People** |
| <03/Dec/18> | <1.0> | SRS 1.0 | **Supervised By:**  Md. Rakib Hossain  Senior Lecturer,  Dept. of Computer Science and Engineering,  University of Liberal Arts, Bangladesh.  **Project Members:**  Apurba Sarkar Ahsiqur Rahman  Mousumi Khan Sanjida Siddiqua |

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**Chapter 1**

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**Introduction**

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather and analyze and give an in-depth insight of the student performance calculator software by defining the problem statement in detail.

* 1. **Purpose**

The purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document will cover each of the system’s intended features, as well as offer a preliminary glimpse of the software application’s User Interface (UI). The purpose of this project is to measure student academic result & extra-curricular activities point perfectly. In a University, The CGPA is count based on students’ academic result but there is no way to measure the extra-curricular activities. So, this project is built for calculate the accurate result of academic & extra-curricular activities.

## 1.2 Scope

The scope of this project is, we can use it in Universities, College & School for calculate CGPA & Extra-Curricular Activities point. By using this we are able to provide a student’s actual performance. The objective of this project is to measure student academic result & extra-curricular activities point perfectly. In this project, we make an Android Apps for the students & an admin panel for the authority which is made on Java. The students can only view the results & information’s but didn’t able to input or modified any data. We use firebase as our database for this project where all the information stored.

**1.3 Overview**

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter. The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product. This chapter contains many diagrams to better understand the project. The fourth chapter is about the process of change management, what we are going to do in case of modification etc. And the last chapter contains some useful information.

**1.4 Definitions, Acronyms, and Abbreviations.**

## 1.4.1 Extracurricular Activity

The word “extracurricular” can be broken down into its roots for a literal explanation: “extra” means “outside” and “curricular” refers to all of the work you do in the classroom. So extracurricular activities are just **activities that you do outside of class**. The Common App says that extracurricular activities include arts, athletics, clubs, employment, personal commitments, and other pursuits.[1]

**1.4.2 GPA and CGPA**

GPA stands for grade point average, and it is the average of the grades obtained by a student in a semester or simply a term of studies in various courses that he has taken. Cumulative grade point average is simply called CGPA. It is the mean of the GPA of a student that he has obtained in college or university, in the courses that he has taken. [2]

**1.4.2 Data Flow Diagram**

A Data Flow Diagram (DFD) is traditional visual representation of the information flows within a system. A neat and clear DFD can depict a good amount of the system requirements graphically. [3]

**1.4.3 Activity Diagram**

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system.

Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system.

The control flow is drawn from one operation to another. This flow can be sequential, branched, or concurrent. Activity diagrams deal with all type of flow control by using different elements such as fork, join, etc.[4]

**1.4.4 Operation System**

An operating system (OS) is the program that, after being initially loaded into the computer by a [boot](http://searchwinit.techtarget.com/definition/boot) program, manages all the other programs in a computer. [5]

## 1.5 References:

1. *What Are Extracurricular Activities and Why Do You Need Them?*. [online] Blog.prepscholar.com. Available at: https://blog.prepscholar.com/what-are-extracurricular-activities-and-why-do-you-need-them [Accessed 1 Dec. 2018].
2. Admin, “Difference Between GPA and CGPA,” *Difference Between*, 21-Jan-2013.[Online].Available:http://www.differencebetween.com/difference-between-gpa-and-vs-cgpa/. [Accessed: 1-Dec-2018].
3. “What is a Data Flow Diagram,” *Lucidchart*, 02-Mar-2018. [Online]. Available: https://www.lucidchart.com/pages/data-flow-diagram.[Accessed: 02-Dec-2018].
4. www.tutorialspoint.com. (2018). *UML - Activity Diagrams*. [online] Available at: https://www.tutorialspoint.com/uml/uml\_activity\_diagram.htm [Accessed 1 Dec. 2018].
5. “What is operating system (OS)? - Definition from WhatIs.com,” *WhatIs.com*.[Online].Available:http://whatis.techtarget.com/definition/operating-system-OS. [Accessed: 1-Dec-2018].

**1.6 Conclusion:**

The product that we are proposing to develop is basically a calculator that will calculate the performances of a student throughout his entire undergraduate level. Here the term performance means the extra curriculum activities of a student. Here we will consider the number of events attended or worked in by a student, number of contests attended by a student, projects or thesis completed and workshops done by a student as the co-curricular events and the product will compute all these events in a specific manner and give a output as the performance grade of a student. In our project there will be two different parts. one is administration part another is student part. Administration part will be a desktop application. The administrator will be able to insert update or delete data in the database and manage every information required to calculate the performance. And the student part will be a mobile application where student will log in and see their performance grade. The tool that we will be using in our project is database: Fire Base to create the database and Android Studio to create the mobile application. As far now there is no existing product similar to it to measure the student co-curricular performance, so we will have to write new features to build this product. We will use the same method which is used to calculate the CGPA of a student in every semester to calculate the performance of a student. We all know that co-curricular activities of a student in his undergraduate level is much important as it provides them with real time experience in many aspects .so if they are able to know what is the status of their co-curricular performance then it will be helpful for every student to perform better in co-curricular events . Even by the performance grade, faculties or interviewers of companies will be able to judge a student that how dynamic a student is!

**Chapter 2**

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**Inception of < STUDENT-PERFORMANCE CALCULATOR >**

**2.1 Introduction**

The inception shall contain the necessary information for the Commission to evaluate the state of implementation of the project, the respect of the work plan, the financial situation of the project and whether the project is on track towards achieving its objectives.

The goal of the inception phase is to identify concurrence needs and conflict requirements among the stakeholders of this project. To establish the ground work, you have worked with the following related to the inception phases:

* Planning meeting
* Identifying Stakeholders
* Our questions to the stakeholders
* Recognizing multiple viewpoints
* Working towards collaboration factors

**2.2 Planning Meeting**

Planning is the process of thinking about the activities required to achieve a desired goal. It is the first and foremost activity to achieve desired results. For our project at first we fixed a date for meeting with our stakeholder. To get started, we breakdown the project by understanding what the project really entails. After we have narrowed down our project, then we establish the goals and objectives we want to accomplish and then clearly define the tasks involved to complete the project. Having our project plan clearly defined can help guide us throughout the project, but that doesn’t mean that we can completely neglect the project and expect it to be completed without constantly reviewing, revising, and monitoring the project.

**2.3 Identifying Stakeholders**

A stakeholder is any person or organization that is actively involved in a Project, or whose interests may be affected positively or negatively by execution of a project. Stakeholder identification is the process used to identify all stakeholders for a project. It is important to understand that not all stakeholders have the same influence or effect on a project, nor will they be influenced in the same manner. It should be done in a methodical and logical way to ensure that stakeholders are not easily omitted. The following questions help us to identify stakeholders:

* Who uses the system?

Mainly admin or faculty and student use the system.

* Who is affected by the outputs of the project?

Admin or faculty and students are affected by the outputs of the project.

* Who evaluates/approves system?

Admin or faculty evaluates the system.

* Who maintains the system?

Administrators maintain the system.

* Who has knowledge (specialist) about the system?

Administrators have knowledge about the system.

* Whose work will influence my project? (During the project and also once the project is completed).

Project manager influences project, organization, industry, the professional discipline and other disciplines as well.

**2.4 Our Questions to the Stakeholders**

Our questions for the stakeholders in a way so that they could give their opinion and requirements for the system. The questions are mentioned in the last part of the SRS. Our questions also focus on the measurable benefits and successful implementation of the project.

Questions to the stockholders given below:

### What Do You Need (Most) from us?

### Can You Give Me an Example?

* What types and how many levels of goals are we dealing with?
* **If this system worked as good as it could, what would that look like?**

**2.5 Recognizing Multiple Viewpoints**

In this part you must figure out what do the clients/stakeholders want and their view points. For example

**2.5.1 Student/User Viewpoints**

1. Easy to access in user mobile.
2. Easy to view usage.
3. Easy to be registered.
4. User flexibility
5. Security
6. Easy to download
7. Easy to update and maintain
8. Get notification on time
9. Productivity Improvement and Cost reduction
10. Performance system found to be satisfactory.

**2.6 Working Towards Collaboration**

Collaboration and teamwork require a mix of interpersonal, problem solving, and communication skills needed for a group to work together towards a common goal. To help build a collaborative team environment, we’ll have to develop and practice the following:

Trust: Be honest; work to eliminate conflicts of interest, avoid talking behind each other’s back, and trust teammates give team members the benefit of the doubt.

Clarify Roles: Review team member roles frequently, clarify responsibilities when action planning, relate team member expectations to team’s overall purpose, figure out ways to help each other.

Communicate Openly & Effectively: Work to clear up misunderstandings quickly and accurately, seek to understand all perspectives, reinforce and recognize team member efforts. Learn to listen well.

You have asked our stakeholders for their requirements and found out that each of them has their own requirements. Some of the requirements are common as well as conflicting. So, you need to follow the steps given below to merge the requirements:

* Find out the common and conflicting requirements.
* Divide the requirements into different categories.
* Identify the special requirements that the stakeholders have.
* Identify the all the requirements according to the stakeholder’s priority points and prioritize them through voting.
* Take final decision about the requirements.

**2.7 Conclusion**

The inception phase of this project helped us to identify the stakeholders as well as their different requirements; you have to recognize multiple viewpoints of stakeholders by communicating with them. In the next chapter, you must discuss about finding requirements and scenario.

To make the project successful, you have to make several group discussions. Student Performance Calculator will provide students with the opportunity of being judged by their performance and get more better opportunities through their performance grade .Administrator will also be able to evaluate a students performance easily through this project. Besides there will be more facilities which will help both students and administration

1. Date: 6th December,2018

Place: ULAB, Dhanmondi.

Meeting agenda:

Group Members:

* Apurba Sarkar
* Ahsiqur Rahman
* Mousumi Khan
* Sanjida Siddiqua

Group Supervisor:

* Apurba Sarkar