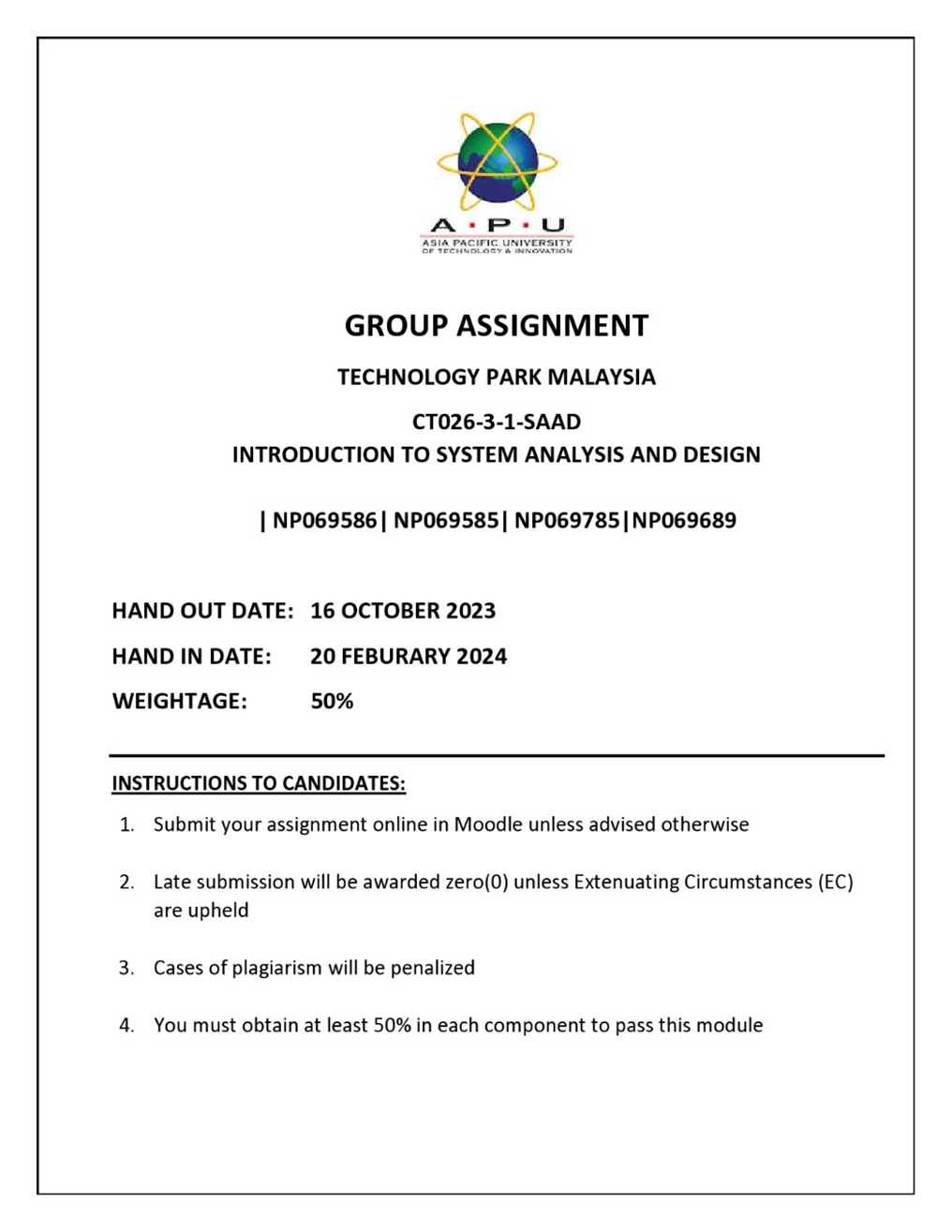
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**Edusphere Proconnect**

* 1. **Introduction:**

Edusphere Proconnect is an innovative business initiative with the aim of transforming the educational landscape, extending its impact beyond students to include business professionals and individuals seeking mentorship. Given the dynamic nature of educational systems and ongoing innovations globally, there has been an unprecedented demand for a groundbreaking learning management system. At its essence, Edusphere represents an optimistic approach dedicated to improving the scenario of future education. It serves as a concentrated learning platform where people from varied backgrounds can experience an exceptional user experience, engage in interactive study sessions, and explore practical and creative learning techniques, all while minimizing distractions. By integrating easily navigable features, a diverse array of classes, responsive design, and advanced privacy and data protection measures, our goal is to establish a modern and efficient learning management system (LMS).

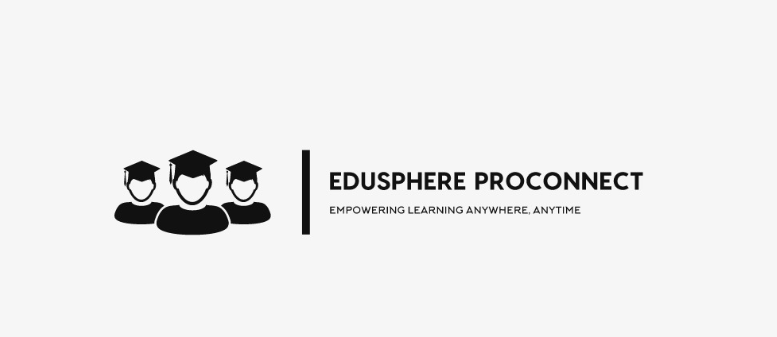


Fig-1: Logo of Edusphere Proconnect

With our primary objectives focused on pioneering a simplified online learning initiative, ensuring an outstanding user experience, fostering flexibility, and encouraging the use of collaboration tools among both teachers and students to create a supportive learning environment, we anticipate that our efforts can revolutionize the market to meet the demand for high-quality learning. The prevalence of conventional learning methods, where students are expected to memorize course content and pass exams to move further in their education, constrains their ability to become well-rounded individuals and explore their areas of interest that the present world has to offer.

Due to the platform's dedication to creating a cohesive medium, the implementation process—ranging from developing a business model, initiating the development phase, and delivering the final product to the target audience—includes an open platform for suggesti

ons. Introducing a transformation in a system that has existed for decades is a journey filled with obstructions and may require significant efforts, including securing supportive investors, marketing initiatives throughout schools and other potential users, user training for effective use of our tool, and recruiting developers who share a similar vision as well as skills for the project. Additionally, it involves extensive market and tools research for optimized efficiency and prompt results.

* 1. **Business Process:**

1. **Needs analysis:**

* Examining the market requirements and strategizing ways to disrupt the existing educational system is imperative. Without a thorough understanding of the current needs in the education sector, there is a risk of entering a market saturated with similar businesses where our presence might be redundant and our efforts might go in vain.
* Establishing clear objectives for the system's success, including software requirements, features, target audience, and more, should be well-understood by all team members. This ensures the smooth operation of the venture with minimal conflicts in opinions and misunderstandings.

1. **Monitoring and Reporting:**

* Commencing from the initial stages of the undertaking, it is crucial to maintain records and conduct thorough observations of the system. This involves capturing intricate details to draw insights from past mistakes and elevate approaches to overcome obstacles that come along the way.
* Producing reports and using monitoring tools to precisely interpret data, including user engagement, completion rates, and progress, can emerge as an important procedure for identifying insightful areas in need of improvement. This helps in analysis through visuals and making strategic efforts for refinement.

1. **Scalability Planning and maintenance:**

* Like any other enterprise, our Learning Management System (LMS) also requires regular updates to keep up with the expanding global requirements and advancements. Certain courses of action involve providing access to specialization courses worldwide, facilitating mentorships on subjects that extend beyond the course curriculum and also providing customizable features.
* It is crucial to carefully consider scalability, as a venture that doesn't experience growth and unique ideas over time may struggle to compete with other businesses that gradually expand and build a brand of themselves.
  1. **Overview of Edusphere Proconnect:**

Edusphere Proconnect is a software with the aim to enhance, oversee, optimize efficiency for teachers providing study materials, ensure the organized delivery of education to students, and facilitate transparent communication among all users by tracking progress of each course. Keeping in mind the essential features that are required for the smooth functioning of a digital learning environment, we intend to use tools that are not only up-to-date with today's technological standards but are also user-friendly and efficient in comparison to current industry practices. Our concept has the potential to become an integral component of every educational institution.

**The following are our objectives:**

1. Providing a flexible learning environment that is accessible by all, enabling students to access their learning materials at their convenience regardless of their location or device.
2. Providing customizable features, such as setting meetings with mentors, calendars, study plan throughout the day, recommending missed assignments, and alert notifications for pending tests.
3. Enabling effective administration of educational assets, encompassing images, videos, externally sourced course materials, and a variety of multimedia elements, to enhance the overall learning experience.
4. Forming partnerships with various educational technology firms like Coursera and Udemy to supplement institutions with additional course materials, enabling students to access educational content and broaden their understanding of diverse developmental fields.
5. Implementing features that cater to individuals with diverse abilities and various forms of learning challenges to ensure the LMS is accessible and beneficial for everyone.
6. As we proceed with collecting data, prioritizing robust data security by employing advanced cyber security measures and maintaining strict data privacy protocols throughout the data collection process.
7. Assisting educators in organizing their course content over the duration of their classes, enabling students to take notes, and providing the option for them to review materials for an extended period to help in revision and catch up on missed lectures.
8. Establishing distinct sections for submitting assignments and coursework during the learning period, featuring options for editing and status indicators (marked, graded, late submission, etc.).
9. Facilitating straightforward scheduling of tests, quizzes, and examinations to monitor students’ progress throughout the course.
10. Enabling teachers to grade assessments with remarks, points for improvement, and identification of incorrect answers in tests like quizzes, promoting a learning experience that helps students understand and avoid repeating mistakes.

**2.1. Problem Statement, Causes and its Effects**

As we move on from a world pandemic, the need for online mediums of education has grown immensely. We have made studying from any part of the world possible. However, the traditional education system is still prevalent, where offline mode of teaching with physical presence limits people from all over the world to gain access to a basic necessity such as education. With the lifting of pandemic lockdowns, the world has partly gone back to its old methods in many ways. However, that should not be a cause of restriction for gaining education and having an efficient as well as unique way to increase skills of millions. Moreover, concerns for data leakage is an important issue to be addressed that has been a major drawback into implementing LMS globally. Portals ask for basic details of an individual that have been known to sell such details to other organizations for suggestions via email, text messages, and so on.

With this perspective, we believe that our LMS enables educators to concentrate on teaching and engaging with students, freeing them from the burden of manual tasks that consume considerable time, allowing for more planning for their course content, put effort on making the content innovative and understanding for all, and give personalized attention to each student. Additionally, students have access to a diverse range of innovative learning techniques, enhancing their skills across various developmental areas with full privacy of their details, learning capability, and progress made.

**Causes for the above mentioned problem:**

* Transitioning away from traditional methods is often a difficult journey for society, particularly when it comes to deeply rooted practices like the conventional teaching-learning approach found globally.
* In the technology sector, Nepal, being relatively new, has significantly less trained educators in terms of IT tools. Majority of teachers are more accustomed to traditional methods involving blackboards, rather than embracing digitalized teaching systems.
* The current global economic uncertainties, especially recession-induced layoffs, contribute to a significant issue of unemployment. Consequently, this poses a challenge for many teachers and creates a reluctance in the entire country to adopt Learning Management Systems (LMS) more proactively.
* Analyzing the country's market, investor hesitations, and limited mentorship are significant challenges, influencing institutions to follow the conventional teaching approaches. These hurdles hinder the exploration of innovative educational methods, preventing the students from broadening their learning capacity.

**Effects of the above mentioned problem:**

* The challenges posed by the prevalence of traditional education methods, concerns about data security, and a shortage of trained professionals primarily limit students' learning opportunities, restricting their access to resources and preventing them from realizing their full potential.
* It also hampers their exposure to digitalized systems, such as a straightforward and efficient Learning Management System (LMS), which could enhance their computer navigation skills.
* Difficulty in accessing classroom-taught resources directly impacts a student's adherence to the course syllabus, potentially leading to falling behind in class and, consequently, underperforming.
* The absence of such opportunities on a global scale may cause students to fall behind in international competition, limiting their personal development compared to others who have access to a broader range of educational resources, despite their immense potential for success in their chosen field.
* Ultimately, due to the lack of early-stage implementation of such technology, the nation will struggle to cultivate highly skilled individuals crucial for its development, individuals who can make significant contributions and represent the country on the global stage, eventually helping the country improve its standing in terms of technology, business, and IT.

The aforementioned reasons and issues carry considerable importance with long-term repercussions, requiring immediate implementations of solutions to eliminate significant effects on the country and its economy. We wholeheartedly believe that a highly sophisticated Learning Management System (LMS) such as Edusphere Proconnect serves as a modest yet impactful step in addressing the prevailing global challenges.

**2.2. Proposed Solutions:**

Even though the causes and effects are hindering the motivation for skillful individuals to embark on a journey for developing a recognized and effective LMS, we believe that we possess the required solutions to eradicate them. The following are our thorough resolutions for the above-mentioned causes of our problem statement:

* **Awareness Campaigns:** The optimal approach to familiarize people with Edusphere Proconnect and its advantages involves organizing awareness programs, webinars, and numerous PR events. Executing these campaigns both physically and online, targeting institutions, course providers, and potential investors can be beneficial for the business to gain stakeholders and users at the same time. This method addresses any shortcomings and presents solutions, instilling confidence in our software for assured success.
* **User engagement:** The success of any software depends on user satisfaction with features like response time, personalization, inclusivity, ease of use, effectiveness, and most importantly, attention-grabbing methods. We plan to incorporate gamification, an interactive UI, and collaboration tools to grab the attention of our users to increase efficiency. These enhancements won't be confined to users but will extend to mentors as well, uplifting motivation and refining teaching and learning capabilities simultaneously. This results in active user engagement and also publicity of the software in the market.
* **Tailored learning paths:** It is no secret that there are individual differences when it comes to study preferences, pace, and timing. We acknowledge that a one-size-fits-all approach is ineffective. In response, we aim to utilize machine learning algorithms to recommend personalized learning routes. This system will suggest course materials suitable to each user's unique preferences and learning objectives, ensuring a more customized learning experience.
* **Regular updates:** In the rapidly evolving global innovation ecosystem, adapting to the swift pace is a must. Our commitment to determined business objectives aligns with providing users an exceptional learning experience. Regular updates and maintenance are essential to user satisfaction for both institutions as well as learners. Each update will involve extensive discussions and involvement of multiple departments to implement design or functional changes that our team believes enhance user experience and market appeal. This approach ensures continuous improvement, responsiveness to evolving needs, and sustained excellence in the ever-changing

Educational environment.

## SDLC:

The systematic method of creating, testing, releasing, deploying, and maintaining applications for software is referred to as the Software Development Life Cycle (SDLC). It provides an organized and controlled method of software development, assuring that the end result meets the goals, is of a superior quality, and arrives on time and under expense. Typically, the SDLC is separated into various phases, each having an own set of responsibilities, goods, and targets (stackify, n.d.)

## Phases of SDLC

Planning is the initial and vital phase in the SDLC. The procedure starts with an examination of the conditions and limitations of the work. After analyzing the firm and its past systems, receiving opinions from consumers, and calculating expenses and schedules, the company may decide either to modify or build the system. In the same time, major problems have been mentioned.

* Planning

The planning phase, referred to as the feasibility stage, is exactly the time when the designers of the project will develop decisions about a future effort. Defining the objectives for the new structures and identifying the issue and scope of any present ones are essential. They must be capable to recognize problems before they limit growth and develop a solid template for the next phase of progress. And help with getting the funding and resources needed to implement out the idea they propose (clouddefense.ai).

* Analyzing:

In the analysis stage, every detail required to construct a fresh system is collected, and initial ideas for concepts are determined. Developers can provide the specifications for any prototype systems, assess substitutes for current prototypes, and conduct research and analysis to determine the needs of the customer. A program need standards, or SRS record, can be created by developers. This includes each element of the hardware, software, and networks that are required for developing the system they plan on creating. That will prevent individuals from misusing unnecessary money or assets while they work alongside other research team in a single location (clouddefense.ai).

* Designing

Designers set the software details like interfaces for users, system connections, internet needs, or databases in the important designing phase of the creating cycle. They develop the design form to guide the SDLC, arrange the requirements specified in the Software Requirements Specification document into an orderly structure, and develop schedules for execution, instruction, and service (clouddefense.ai).

* Implementation

In the development stage, developers construct applications and write program that complies with requirements & designs. During this stage, static application security testing (SAST) methods are used. Along with applying tools like translators, debuggers, & coders, programmers follow to coding standards. Programming languages like C++ & PHP are used, with proper code chosen to meet with the project's needs & criteria (clouddefense.ai).

* Testing:

The creation of software is just one phase; to ensure that there is no errors or negative impacts for the user experience, it has to pass thorough testing. For ensuring that the program meets the standards and criteria stated in the SRS specification, designers actively observe, accurate & verify any issues that arise (intellectsoft.net).

* Deployment

When the product is finished, it is deployed to an industrial setting for its final testing for being brought to consumers. Opportunities with unexpected events were vital, which includes using the use of micro services for easy function moving & many backup methods. The canary discharge is able to be used if needed (intellectsoft.net).

* Maintenance

Customers use systems in the software development life cycle process's maintenance phase. Producers ought to fix any problems which weren't found in first evaluation, particularly for huge systems. Continuous tools for tracking, commonly called "instrumentation," are able to keep high standards by constantly evaluating speed & efficiency, identifying errors, & using changes for constant use (intellectsoft.net).

**Gantt chart:**

**Workload matrix:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| S.N | Tasks | Duration | Contribution Percentage | | | | | Total |
| NP069586 | | NP069585 | NP069689 | NP069785 |
| 1. | Introduction | 5 | 5% | 5% | | 45% | 45% | 100% |
| 2. | Problem & proposed solution | 9 | 5% | 5% | | 30% | 60% | 100% |
| 3. | Project Planning | 5 | 5% | 5% | | 60% | 30% | 100% |
| 4. | Feasibility Study | 5 | 20% | 70% | | 5% | 5% | 100% |
| 5. | System Analysis | 6 | 25% | 25% | | 25% | 25% | 100% |
| 6. | Design a Diagram | 8 | 75% | 5% | | 5% | 5% | 100% |
| 7. | Interface Design | 4 | 60% | 5% | | 30% | 5% | 100% |
| 8. | Requirement Gathering | 6 | 80% | 10% | | 5% | 5% | 100% |
| 9. | Design | 5 | 70% | 5% | | 20% | 5% | 100% |
| 10. | Involvement and assist | 3 | 70% | 15% | | 5% | 10% | 100% |
|  | Total |  | 25% | 25% | | 25% | 25% | 100% |

1. **Feasibility study:**

A feasibility study is an extensive evaluation of an idea, task, or products to evaluate its chances of effectiveness. The objective of the research aims to measure technological, economical, & ethical feasibility by examining demands of the project, finding possible challenges, evaluating costs, & estimating gain in investment. By checking these factors, the feasibility analysis gives an accurate picture on if the objective is feasible and worthy of seeking, helping leaders to determine its overall survival and potential for achievement of return on investment.

The action that should be done while conducting the feasibility study are explained below:

* Operational Feasibility Analyses:

A feasibility study examines the proposed a project's feasibility for business operations, while taking factors like person adjustment, required training, & potential disruptions. It analyses the task's impact on process, efficiency, & system reliability to guarantee its economic feasibility & value for the company, and to ensure easy integration in routine tasks.

* Technical Feasibility Analysis:

Technical feasibility utilizes an indicator of how an activity or systems will be efficiently developed and implemented form a technological point of view. It involves determining the task's technical needs, abilities, & boundaries.

* Economic Feasibility Analysis:

Economic feasibility is an essential part of feasibility studies in the management of projects. It analyses if a suggested concepts is economically feasible & reasonable. This kind of feasibility study involves an extensive examination of the project's estimated expenses as well as potential returns of investment.

* Schedule Feasibility Analysis:

Schedule feasibility represents one of the aspects included in the project's feasibility study. It evaluates whether a task can be accomplished within an acceptable duration taking into consideration time frames, objectives, and time limits. The goal is to decide if the task is able to be accomplished during the stated time frame and if the schedule coincide with the goals of the company.

The person who makes decision uses findings for feasibility study to access whether a project is able to proceed. The study request specifics data that can be used to verify the project panning, make best choices, and to maintain the risk of failure.

Each action of a feasibility study plays a vital role for evaluation of the feasibility of a task and ensure that system has high chance of success. The information needed while the feasibility study may depends on the size and flexibility of the project.

**PIECES Framework:**

Pieces framework is the design used to examine the feasibility of information system. Every letter in an acronym which represents the vital aspects that need to be done while applying the operational

Feasibility analysis in the feasibility study. The overview of the PIECES framework are explained below:

1. Performance:

We need to evaluate the system's working status by considering the working speed, response done in estimated time, throughput and overall efficiency of the developed system. We also need to consider about the proposed system is able to meet the needs of the performance and capable to handle the pressure

2. Information:

We have to test the system's quality, accuracy, availability and relevant information. we have to evaluate the information and consider the user's requirement, accuracy of the data, and the capability of the system to provide the relevant and updated information.

3. Economy:

We need to focus on estimation of the cost-effectiveness with the consideration of the development and operational budget. Analysis of the budget, development cost, maintenance cost and effective return of the investment.

1. Control:

We have to maintain the security, integration of the data, controlling measures for the access of the system. System capability for maintaining data security, integrity and assure that effective control of access of the data need to evaluate.

1. Efficiency:

The resource should be utilize including time personnel and technology in efficient way. We should consider the resources used and efficiency of the organizational goals.

1. Service:

We need to focus on the quality of service provided through the system including the satisfaction of the user and support mechanism. Consideration of the user's thought, support mechanism and capability of the system to meet the user expectation towards the system that we developed.

Pieces framework helps to ensure the performance, efficiency, quality of services, economical status of the system, information that was included in the system.

# System Analysis

System analysis may be defined as "the process of studying a procedure or business to identify its goal and purposes and create systems and procedures that will efficiently achieve them". Another perspective sees system analysis as a problem-solving approach that deconstructs a system into its constituent elements and assesses how well those parts function and interact to achieve their goals (wikipedia.org, 2017).

## Requirement gathering

1. **One-on-One Interviews:**

It is one of the most common ways of getting information, which is quite useful on this platform. It is often done when sitting with the clients and asking whether there is a flaw in their current arrangement or what is upsetting them. This would alter the system or anything important. It's a basic but efficient technique since people quickly divulge or always have something that shows it lacks this or that, thus this may be the finest way of getting information (LISBDNETWORK, 2022).

1. **Group Interviews:**
2. It works in a manner comparable to one-on-one, but in a group of individuals, generally more than one. It is simpler to expose and acquire knowledge in a group since it takes less time than the first option listed above. The more it's easier to work, the more we can gather information easily within a very short time, and the people in the specific group can help us gather the data whereas they're discussing the matter and find a fault in each other's statement, and then we can get the information regarding something lacking and something wrong in the system (LISBDNETWORK, 2022).
3. **Joint Application Development:**

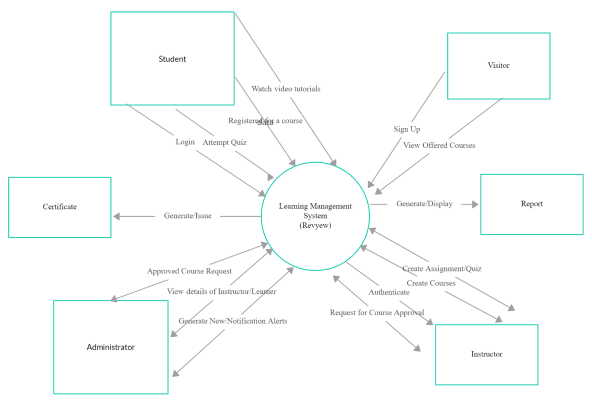
It’s like a group of people gathering the requirements that are needed in the improvement of the system by making documentation of the series of problems referring to the system’s backwardness. (LISBDNETWORK, 2022)

1. **Questionnaires:**

These are the casual ways of gathering the information by asking the people in the company about some of the minor faults in the system. It is a commonly used term in big companies or organizations. It is the gathering of information among many people of large amount like more than six or seven. (LISBDNETWORK, 2022)

# Design a Diagram

## Context diagram



**Fig: Context diagram**

## Level - 0 DFD

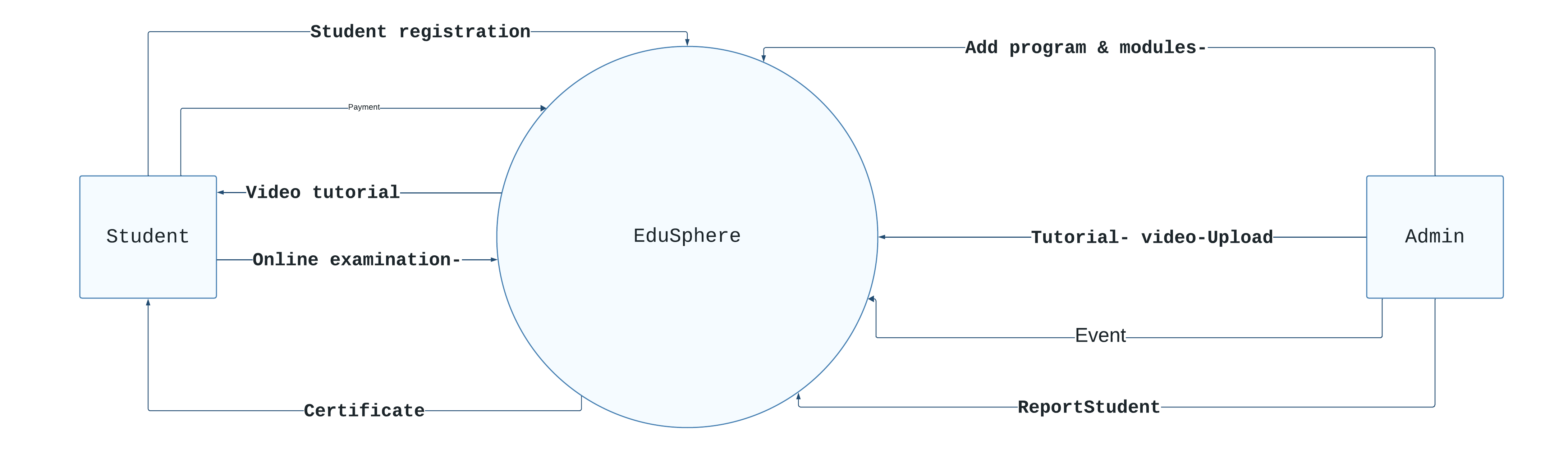
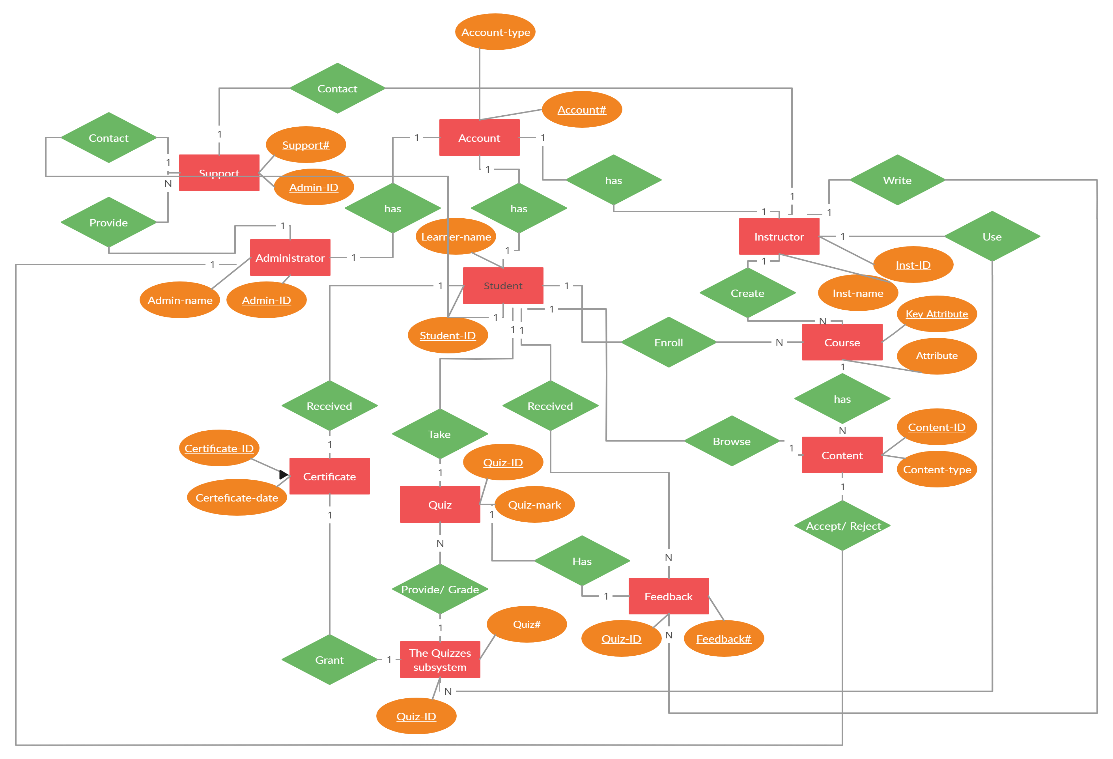


Fig: DFD level 0 diagram

## ERD



**Fig: Entity-Relational Diagram**

# Requirement Gathering

## Document review

Document review means reviewing or investing, analyzing the whole document again and again to gather the information from it and test whether there is any mistake or not. Basically, document review is important everywhere in small businesses, and schools, creating ideas and it also works in our platform eLearning.

So, document review helps us understand what to add and what to not add to our company “Edusphere’’ or what is the mistake in a document and how can we make this a better document? In a simple way document review means just reviewing the previous document and editing that document and taking the earlier ideas from that document. So, in our company’s eLearning project, it works the same it covers the mistake, edit it, and gathers the required important data from the previous document. Talking about the document review it demands a close checking of the document in a document review to know if they are all working as the measurement of the content properly or not. In this process, every document is properly or detail covered. To assist decision-making or to adhere to legal or regulatory standards, it is important to make sure that all pertinent information is identified and presented in a clear and structured manner.

Advantages:

* It will make our document more error-free because it will help to find the error in our previous document and will improve the development of the quality of the document.
* It will save a lot of time because it will review the document and find the problems in the document early and save from the problems that are going to happen later.
* It will help to understand the document and find the missing points in the document and
* Allows adding them.

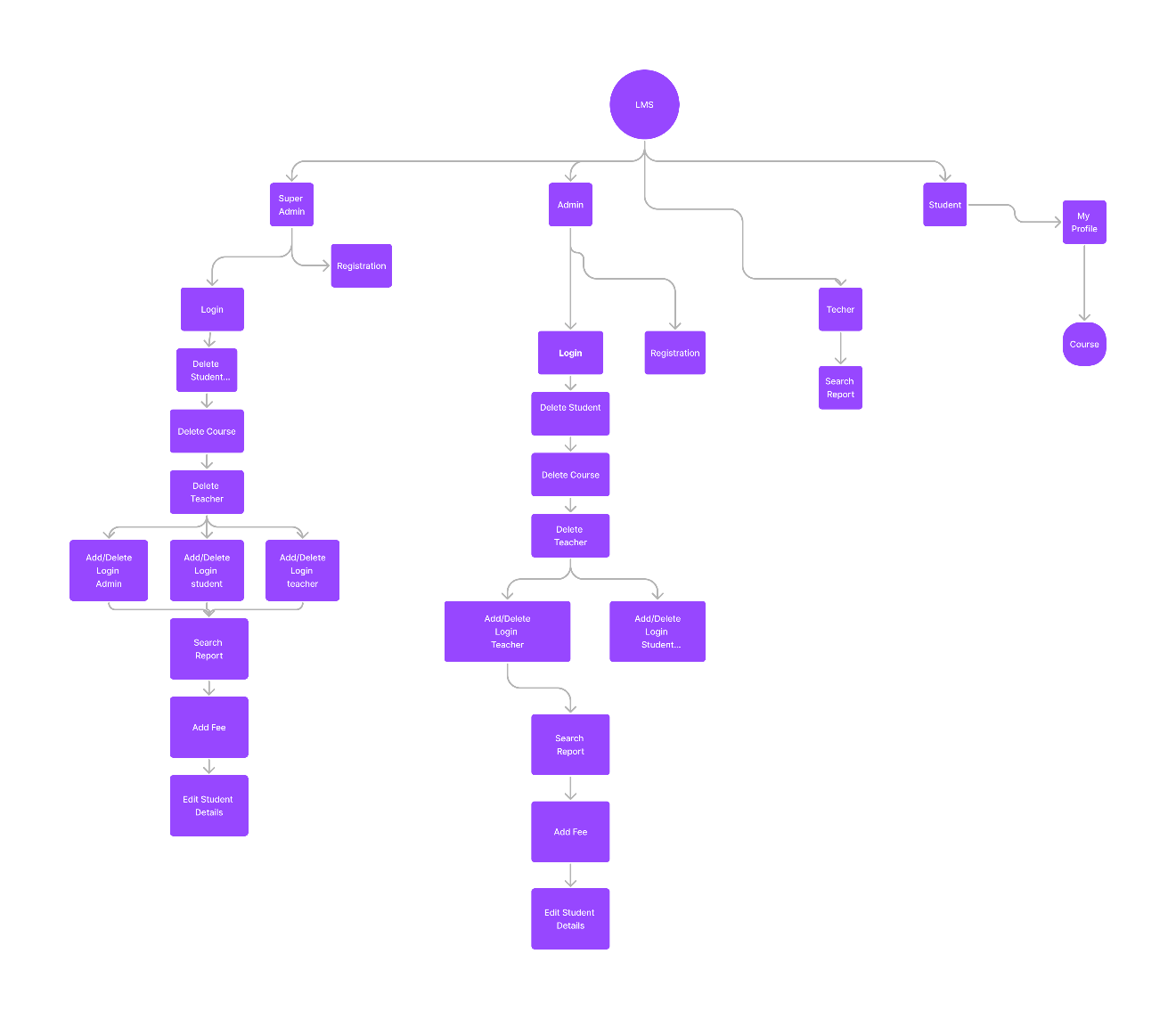
Disadvantages:

So, one of the disadvantages is that the person or anybody reviewing the document will only have a limited idea and may not understand what is the purpose or use of that document which will lead to mistakes or errors in that document.

1. Document review will be a time-consuming task as reviewing the document again and again will slow down the process of document reviewing.
2. In the document review process the cost will be high because of the expertise we need for the document review as it needs a high level of skills and knowledge to implement it.

**User interface Design:**

**Web flow for LMS (Edusphere)**



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