UOW MALAYSIA KDU
PART OF THE UNIVERSITY OF WOLLONGONG AUSTRALIA GLOBAL NETWORK

SCHOOL OF COMPUTING & CREATIVE MEDIA

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☐FOUNDATION ☐DIPLOMA ☒ DEGREE ☐ MASTER

# Assignment Coversheet

**Please complete all details required clearly.** For softcopy submissions, please ensure this cover sheet is included at the start of your document or in the file folder.

**Assignment & Course Details:**

| | | | |
|---|---|---|---|
| **Subject Code:** *(e.g. XCAT1234)* **XBSE 2044N** | | **Subject Name** *(e.g. Fundamentals of Computing)*: **IT Project Management** | |
| **Course** *(e.g. Bachelor in Computing)* : **Bachelor of Information System (Hons) Enterprise Information Systems, Bachelor of Computer Science (Hons)** | | | |
| **Lecturer Name:** **Cindy De Vosse** | | | |
| **Assessment Due Date:** *(dd/mm/yy)* | **28-3-2022** | **Assessment Title:** | **Assignment** |

*I/We declare that:*

- *This assignment is my/our own original work, except where I/we have appropriately cited the original source.*
- *This assignment or parts of it has not previously been submitted for assessment in this or any other subject.*
- *I/We allow the assessor of this assignment to test any work submitted by me/us, using text comparison software for plagiarism.*
  ***(For more information, Please read the Academic Integrity Guidelines)***

| | | |
|---|---|---|
| **Name : Goo Han Cong**<br>**Student ID: 0133677**<br>**Email : 0133677@kdu-online.com**<br>**Mobile No: 011-18668016 Signature:** *Goo*<br>**Date: 28-3-2023** | **Name : Liew Jieh Wei**<br>**Student ID: 0131455**<br>**Email : 0131455@kdu-online.com**<br>**Mobile No: 012-6423809 Signature:** *Liew*<br>**Date: 28-3-2023** | **Name : Sudhirr Irshana Durai Kannan**<br>**Student ID: 0135513**<br>**Email : 0135513@kdu-online.com**<br>**Mobile No: 018-2315574 Signature:** *Sudhirr*<br>**Date: 28-3-2023** |
| **Name :**<br>**Student ID:**<br>**Email :**<br>**Mobile No: Signature:**<br>**Date:** | **Name :**<br>**Student ID:**<br>**Email :**<br>**Mobile No: Signature:**<br>**Date:** | **Name :**<br>**Student ID:**<br>**Email :**<br>**Mobile No: Signature:**<br>**Date:** |

**For office use only** – Lecturer comments (if applicable)

**Marks Breakdown**

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Contributors: Goo Han Cong, Liew Jieh Wei, Sudhirr Irshana Durai Kannan

## 1.0 INDTRODUCTION AND ASSUMPTION

Due to the covid-19 pandemic, some students tend to learn online because they think online is convenient and easy to absorb knowledge. EduFirst wants to create a system that can personalize the learning experience of students. Instead of looking at the online mode as a risk, it can be a positive that provides opportunities to transform EduFirst business model into the modern one which promotes interactive and innovative elements in the teaching and learning environment. Some students would prefer physical class, online class and hybrid class so the brand new system captures the needs of students. EduFirst has to measure the ROI with a set of measurement guidance because it is a big investment for them. To be able to capture the information more precisely, a survey must be filled out for every registered student and an honest response can allow us to create a more personalised learning experience. So, the system is able to give a different output of teaching methods with different kinds of requests from students. At the same time, the system must produce a different output of teaching methods with different kinds of requests from students.

The implementation of this system is going to maintain the competitiveness among the competitors after the Covid-19 era.

## 2.0 THE PROJECT CHARTER

| 1. General Project Information | | | | |
|---|---|---|---|---|
| **Project Name:** | **EduTailor** | | | |
| **Executive Sponsors:** | **Cindy De Vosse (CEO)** | | | |
| **Department Sponsor:** | **Finance department** | | | |
| **Impact of project:** | Attracts more students with a unique learning way | | | |
| 2. Project Team | | | | |
| | **Name** | **Department** | **Telephone** | **Roles** |
| **Project Manager:** | Goo Han Cong | IT department | 011-1111111 | Project Manager |
| **Team Members:** | Liew Jieh Wei | IT department | 012-2222222 | Front-End Developer |
| | Sudhirr Irshana Durai Kannan | IT department | 013-3333333 | System UX/ UI Designer |
| | John Lee | IT department | 014-4444444 | Quality Assurance Engineer |
| | Kek Wei Cong | IT department | 016-6666666 | Content Specialist |
| | Lee Jia Yi | IT department | 017-7777777 | Back-End Developer |
| | | | | |
| | | | | |
| | | | | |
| 3. Stakeholders *(e.g., those with a significant interest in or who will be significantly affected by this project)* | | | | |
| Students | | | | |
| Tutors | | | | |
| Parents | | | | |



Contributors: Goo Han Cong, Liew Jieh Wei, Sudhirr Irshana Durai Kannan

IT department

EduFirst Founder

## 4. Background

EduFirst is a tuition center founded in 2010 and it is located at SS15, Subang. We have been using the traditional teaching method from the start and enhanced with our very own innovative way. All the tutors are part time and 1-3 subjects for each tutor. Our students are from Standard 1 to Form 5. Our objective is to help students to score better in their exam with our very own teaching method which is more understandable and unique compared to the school. We started online class to accommodate with the Covid-19 Control Movement Restriction by the government so two learning delivery mode are provided to students for now.

## 5. Project Scope Statement

**Project Purpose / Business Justification:** *Describe the business need this project addresses*

- To develop a system that can personalize tuition student's learning experience with the function of registering.
- To provide an envionment that students can learn happily without stress.
- To create a new pathway to increase the business revenue, especially maintain the competitiveness with competitors after the Covid-19 era.

**Objectives:** (in business terms) *Describe the measurable outcomes of the project, e.g., reduce cost by xxxx or increase quality to yyyy*

- To provide student the best learning delivery mode
- To develop an algorithm that can help to boost students' grade with fun learning experience
  - Business:
    - To increase the revenue of tuition centre
    - To expand teaching channel for tutoring centres
    - Remain competitiveness among other opponents after Covid-19 era
  - Technical:
    - A stable, reliable, user-friendly website
    - Tend to convert visitor become customer

**Business Case**

1. What is this project about?
   This project is creating a system for a tuiton center named edufirst and that system allows students to register for classes, view information of this center. A survey must be filled for every registered student and honest response can allow the system and tutor to create a more personalized learning experience.
2. How does this solution address key business issues?
   Building a better education system is responsibility of the educator so this system is to assist the students to learn more knowledge in a creative way that students are capable to understand and remember what is thought. We hope that the knowledge that is thought can be used for the future and using the knowledge to pay back to the society. Meanwhile, the knowledge is an intangible asset for the businesses.
3. How much will it cost and how long will it take?
   It costs about RM100,000 to RM120,000 and it will take around 24 weeks which is 6 months to complete the project which include testing phase as well.
4. What is the return on investment and payback period ?
   ROI is based on the amount of registered students.
   With 150 students, the payback period would be 2.22 to 2.5 months.
   With 100 students, the payback period would be 4.44 to 3.95 months.
   With 50 students, the payback period would be 4.73 to 5.22 months.

**The overall payback period is about 2 to 6 months.**

**Deliverables:** *List the high-level "products" to be created (e.g., improved xxxx process, employee manual on yyyy)*

- Create the best solution for our students if they are facing learning difficulty.
- Become one of the best interactive tuition classes in Malaysia with the help of system.
- This website could be used for tailoring the class based on the learning behaviour of students (by asking when u usually learn, how you are learning, what subjects you are weak on, what subject u like and so on). They will be able to register, log in, to get the free trial class, and sign up for the suitable tuition class.

**Scope**: *List what the project will and will not address (e.g., this project addresses units that report into the Office of Executive Vice President. Units that report into the Provosts Office are not included)*

- Algorithm is the main research target as it determine the type of learning delivery.
- Exploring the most creative and effective learning experience.

**Project Milestones:** *Propose start and end dates for Project Phases (e.g., Inception, Planning, Construction, Delivery) and other major milestones*

**10/3 - 12/3 –** Produce Project charter with business case
**12/3 - 14/3 –** Communicate the needs of the system with the project owner and stakeholders
**14/3 - 16/3 –** Budget estimates
**16/2 - 17/3 –** Budget approval
**17/3 - 30/4 –** Develop system architecture
**1/5 - 7/5 –** Build and test application modules
**8/5 - 15/5 –** Integrate modules and components
**16/5 - 22/5 –** Conduct unit testing
**23/5 - 31/5 –** Conduct integration testing
**1/6 - 1/7 –** Conduct system testing (user acceptance, load and stress, security)
**1/7 - 15/7 –** Conduct final testing
**15/7 - 11/8 –** Resolve user issues and bugs
**12/8 –** Launch System to user

**Success criteria**

- The system can work properly and able to produce different result from different responses with algorithms.
- The overall result of the system should score 80 to above like unit testing, integration testing, system testing, and acceptance testing.
- The parents or guardian satisfied with the learning environment and their children scores well in exam.
- The system development should not exceed RM 120,000 and must be done within 24 weeks.

| Risk | Risk Rating (Hi, Med, Lo) |
|---|---|
| Low ROI | Medium |
| Lack of quality assurance, Unclear devision responsibility, Lack of technical skill, Lack of security implementation, Unclear devision responsibility | High |

**Constraints:** *List any conditions that may limit the project team's options with respect to resources, personnel, or schedule (e.g., predetermined budget or project end date, limit on number of staff that may be assigned to the project).*

- Limitation of budget constraints the team to use more advanced tool to develop the system
- Time: 6 months
- Budget: RM100,000 – RM120,000
- Human Resources: 6 members

**External Dependencies:** *Will project success depend on coordination of efforts between the project team and one or more other individuals or groups? Has everyone involved agreed to this interaction?*

- Ask opinions and advise from a system consultant to meet the requirements as possible.
- Outsourcing the best and easy to use system design software to complete the project at the expected date.
- Licensing of certain technology tools are needed
- Take advise from the agenda to modify the requirements of the stakeholders

## 6. Team Operating Principle

- Verbal and Non verbal communication are the main way to communicate with the group members, skateholders and sponsors.
- Google meet is the platform to have non verbal communication where weekly meeting will be taken place.
- Verbal communication takes place among team members where weekly meeting is taking place.
- Email and whatsapp are the main tool to communication with the sponsor and skateholder.

## 7. Lesson learned

- Collect requirements required the helps from stakeholder with an effective communication way
- Every task must be defined more specific and detail so that the progress is followed with the schedule
- Communicating with team mates must not only related to project but non-related topic can also boost the productivity of work as it is less stressful and more motivated.

## 8. Sign-off

| | Name | Signature | Date (MM/DD/YYYY) |
|---|---|---|---|
| Executive Sponsor | Cindy De Vosse | *Cindy* | |
| Department Sponsor | Tan Yi Wei | *Wei* | |
| Project Manager | Goo Han Cong | *Cong* | |

## 3.0 PROJECT CHARTER JUSTIFICATION

Wrike has defined project charter as "a document that defines the objectives, scope and stakeholders of a project, providing a roadmap for the team to follow." (n.d.). It includes the elements like project goals, objectives, resource requirements, stakeholders, schedule milestones and other details (S.Gills, 2022). Therefore, all parties of the project can understand the project more easily.

"EduTaylor" as an all new website development project which is based on the constraints such as, the cost is around RM 100,000- RM 120,000, developed by a team of 5-6 members and finished within 24 weeks. Under this circumstance, team members have to finish the project under the triple constraints and various uncertainties of the project. It raises the chance of project failure therefore a project charter is needed as it could be a helpful tool in this case.

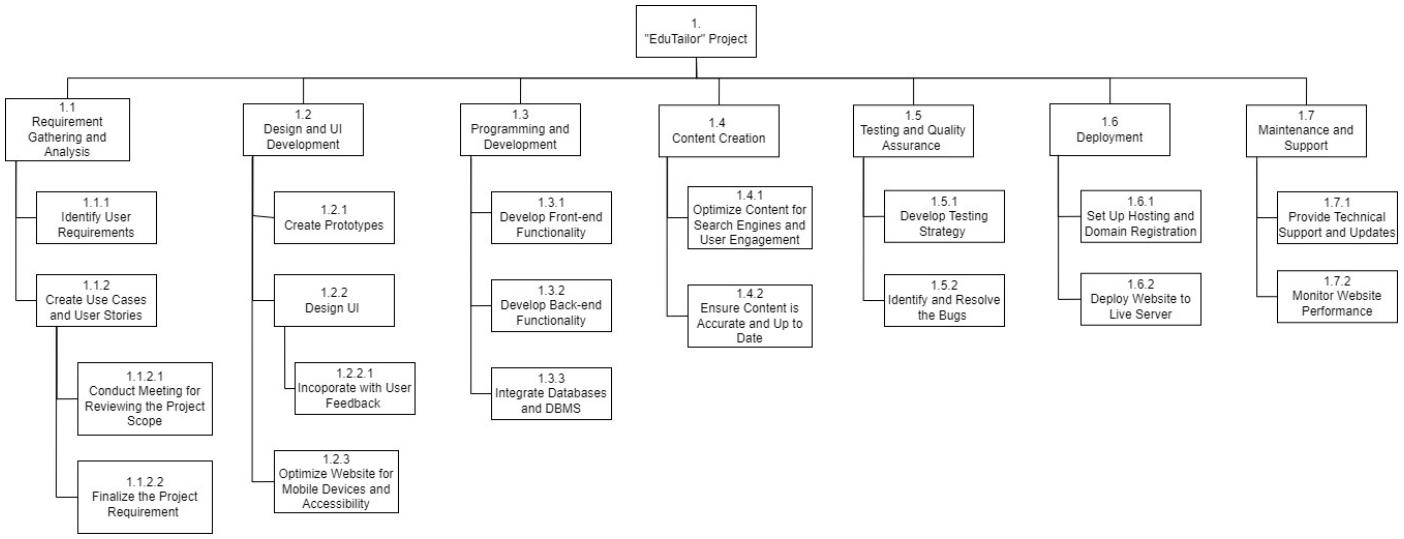
Firstly, once the project charter has been finalised, it means the project manager is authorised to assemble and allocate the resources to accomplish the objectives of the "EduTailor" (Simplilearn, 2023). It acts as a document that transforms from initiating phase to planning phase.

Then, the elements that are available in the project charter ensure the "EduTailor" related parties are having a common understanding about the goals and objectives. So, it improves the teamwork and work morale in this project because it is a tool that enables organisations to keep track of different aspects of "EduTailor", such as time, scope, cost and stakeholder. (Knowledgehut, 2023).

Project charter serves as an informal agreement, it forces the project managers, team members and sponsors to take responsibilities in their related part. Then, the most important thing is that the project manager will make decisions and take actions in a responsible way. Normally, this leads to a successful project.

To sum up, project charter is an extremely helpful and useful tool for "EduTailor". It makes all of the parties understand their responsibilities and make sure they could be aware of the same goals and expectations. Besides that, the team members can quickly find out where the problem and risk of this project is since it has outlined the details of the project.Lastly, the constraints, tasks and number of involved members of "EduTailor" has indicated it is a medium scale project. Therefore, a complete project charter should be established and used for "EduTailor".

## 4.0 WORK BREAKDOWN STRUCTURE




## 5.0 RISK MANAGEMENT PLAN

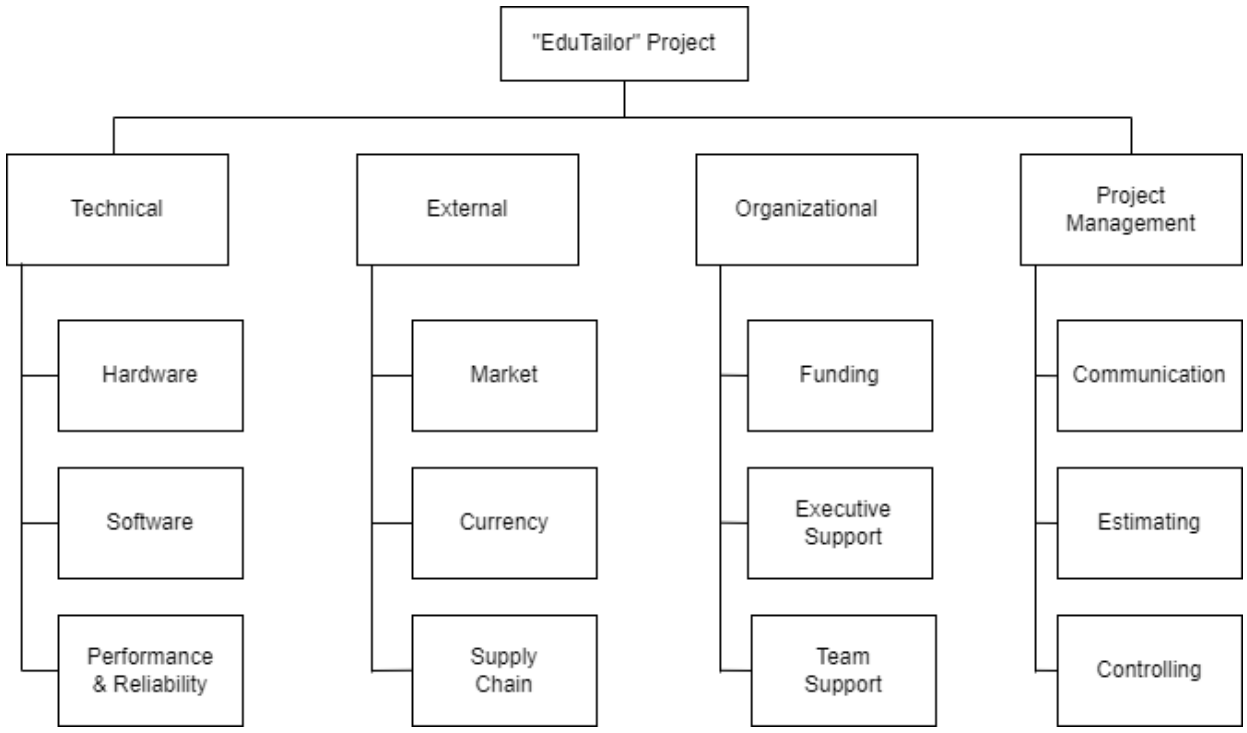
### *5.1 PLANNING RISK MANAGEMENT*

| **PROJECT GOALS AND OBJECTIVES** | |
|---|---|
| **Goals** | Develop a website named “EduTailor” |
| **Objectives** | • Business:<br>  o To increase the revenue of tuition centre<br>  o To expand teaching channel for tutoring centres<br>  o Remain competitiveness among other opponents after covid-19 era<br>• Technical:<br>  o A stable, reliable, user-friendly website<br>  o Tend to convert visitor become customer |
| **RISK MANAGEMENT** | |
| **Methodology** | • According to the 6 standard steps of risk management plan to perform the risk management<br>  o Planning risk management<br>  o Identify Risk<br>  o Performing qualitative risk analysis<br>  o Performing quantitative risk analysis<br>  o Planning risk responses<br>  o Controlling risk<br><br>• Use the tools to visualise and identify the risks<br>  o Risk Breakdown Structure<br>  o Probability Matrix |
| **Roles and Responsibilities** | • The undersigned acknowledge they have reviewed the **Risk Management Plan** for the **“EduTailor”** project. Changes to this **Risk Management Plan** will be coordinated with and approved by the undersigned or their designated representatives.<br><br>Signature: ***GOO***<br>Print Name: Goo Han Cong<br>Role: Project Manager<br>Date: 10th March 2023 |

| | |
|---|---|
| | Signature: LJEW<br>Print Name: Lieh Jieh Wei<br>Role: Risk Manager, Front-End Developer<br>Date:10th March 2023<br><br>Signature: John<br>Print Name: John Lee<br>Role: Quality Assurance Engineer<br>Date:10th March 2023<br><br>Signature: Sudhirr<br>Print Name: Sudhirr Irshana Durai Kannan<br>Role: System UX/UI Designer<br>Date:10th March 2023<br><br>Signature: LEE<br>Print Name: Lee Jia Yi<br>Role: System Back-End Developer<br>Date:10th March 2023<br><br>Signature: Cindy<br>Print Name: Cindy De Vosse<br>Role: Stakeholder<br>Date:10th March 2023 |
| **Budget and Schedule** | • Budget<br>o RM 100,000 - RM 120,000 for the whole project.<br>o Among them, RM 20,000 is the fund for risk management.<br><br>• Schedule<br>o Project start date: 10th March 2023<br>o Project end date: 12nd August 2023<br>o Allowance for addressing risk:: 12 days (approximately 10% of duration of project duration)<br>o Contingency plan review date:<br>▪ 9th April 2023<br>▪ 9th May 2023<br>▪ 9th June 2023<br>▪ 9th July 2023<br>▪ 25th July 2023 |
| **Risk Categories** | • The main risk of this project includes:<br>o Technical<br>o External<br>o Organisational<br>o Project Management<br><br>• Risk Breakdown Structure, Probability Matrix will be established |

| | |
|---|---|
| **Risk Probability and Impact** | • The probability matrix is mainly used for scoring the level of risks. The matrix is built based on the risk that had been identified and calculated by the project manager and risk manager. The risk manager will use the tools to calculate the possibility of problem occurence. |
| **Revised Stakeholders Tolerances** | • The risk tolerance type of stakeholders is risk neutral.<br>• They can accept +/- 10% of project duration, RM10,000 as extra cost and +/- 5% of scope creep.<br>• The stakeholders' tolerances will be revised as the project is developing according to the contingency plan review date. |
| **Tracking** | • The lessons that are learned from the risk will be clearly documented in the document.<br>• Project manager and risk manager will track the risk management process at the same time.<br>• The contingency plan will be reviewed as mentioned above. |
| **Risk Documentation** | • The risk management will be reported in the form of word, graph, diagram within the document.<br>• The components that are needed in this project:<br>  ○ Risk register<br>  Helps to identify the risks and others relate information<br>  ○ Probability Matrix<br>  Helps to visualise the probability occurrence of the risks |

*5.1.1 Risk Breakdown Structure*



*5.2 IDENTIFY RISK*

*5.2.1 Risk 1 Lack of Security Implementation in System*

| **Risk Registration Table** | | | | | |
|---|---|---|---|---|---|
| **No:** | 1 | | **Rank:** | | 1 |
| **Risk:** | **Lack of security implementation in system** | | | | |
| **Description:** | Software security is always the main problem to be concerned about and programmers commonly do not have too much knowledge in security which is very dangerous to release it for services. | | | | |
| **Root Cause:** | Project Manager did not put security the priority of the project | | | | |
| **Triggers:** | • Some of the codes are missing due to poor security implementation<br>• Data breaches<br>• Frustration of parents | | | | |
| **Potential Responses:** | • Hire a security expert<br>• Outsource a third-party security software<br>• Collaborate with other organisation that has a security expert<br>• Team members attend the security seminar for training purposes | | | | |
| **Risk Owner:** | Project Manager | **Probability:** | High | **Impact:** | High |
| **Status:** | Project Manager conducted an emergency meeting to seek the best solution | | | | |

*5.2.2 Risk 2 Low ROI*

| **Risk Registration Table** | | | |
|---|---|---|---|
| **No:** | 2 | **Rank:** | 2 |
| **Risk:** | **Low ROI** | | |
| **Description:** | The functions of the system are not creating any values to the tuition centre and it can be measured through the number of students registered. EduFirst's accountant has measured the ROI of this system and found out the ROI is pretty low and takes a long time to see effect. Meanwhile, the owner does not wish to see no difference before and after implementing the system. | | |
| **Root Cause:** | • Poor system design in terms of functionality<br>• Only focused on technical part instead of marketing part | | |
| **Triggers:** | • Dissatisfaction of investor | | |

| | | | | | |
|---|---|---|---|---|---|
| | • Low cash flow | | | | |
| **Potential Responses:** | • Reshaping marketing strategy<br>• Collaborate with other tuition centre | | | | |
| **Risk Owner:** | Content Manager | **Probability:** | Medium | **Impact:** | Low |
| **Status:** | Content Manager has discussed with the team and has decided to add more functions | | | | |

*5.2.3 Risk 3 Lack of Quality Assurance*

| **Risk Registration Table** | | | | | |
|---|---|---|---|---|---|
| **No:** | 3 | | **Rank:** | | 3 |
| **Risk:** | **Lack of Quality Assurance** | | | | |
| **Description:** | The system does not do every single non-functional requirements to support the functional requirement because of time constraint which some procedure of testing are being skipped and not being review properly. Therefore, during the first phase of quality testing, some components have not reached the requirements. | | | | |
| **Root Cause:** | Tight deadline (expectation versus reality) | | | | |
| **Triggers:** | Delay on completion date | | | | |
| **Potential Responses:** | • Request for extension of project's deadline<br>• Set milestones for each step of testing with acceptance criteria | | | | |
| **Risk Owner:** | John Lee (quality assurance engineer) | **Probability:** | Low | **Impact:** | High |
| **Status:** | The schedule for testing have modified and all tests are being prioritized. | | | | |

*5.2.4 Risk 4 Unclear Division of Responsibilities*

| **Risk Registration Table** | | | |
|---|---|---|---|
| **No:** | 4 | **Rank:** | 4 |
| **Risk:** | **Unclear division of responsibilities** | | |
| **Description:** | Team members are not sure about what their jobs entail and work is not getting done. If this keeps up, the project will not be finished before the agreed delivery date. | | |

| | | | | | |
|---|---|---|---|---|---|
| **Root Cause:** | Lack of clarity regarding organisational structure and division of labour within the project | | | | |
| **Triggers:** | Project manager notices project slowdown and tasks have to constantly get confirmation before anything gets done | | | | |
| **Potential Responses:** | Project manager constructs a RACI matrix for the project team. RACI stands for Responsible, Accountable, Consulted and Informed. The RACI matrix shows clearly the division of responsibilities and labour within the team, which should help everyone move forward smoothly. | | | | |
| **Risk Owner:** | Goo Han Cong (project manager) | **Probability:** | Medium | **Impact:** | High |
| **Status:** | PM draws up the matrix within the week. | | | | |

*5.2.5 Risk 5 Team Lacks Technical Skills*

| **Risk Registration Table** | | | | | |
|---|---|---|---|---|---|
| **No:** | 5 | | **Rank:** | | 5 |
| **Risk:** | **Team lacks technical skills** | | | | |
| **Description:** | The project team does not have the required skills to design/implement this project's requirements | | | | |
| **Root Cause:** | Team members were not picked with appropriate skillsets | | | | |
| **Triggers:** | Team is unable to produce deliverables | | | | |
| **Potential Responses:** | • Train existing team members<br>• Employ external contractors with needed skillsets | | | | |
| **Risk Owner:** | Goo Han Cong (project manager) | **Probability:** | Low | **Impact:** | High |
| **Status:** | PM will look into budget and time constraints before proceeding | | | | |

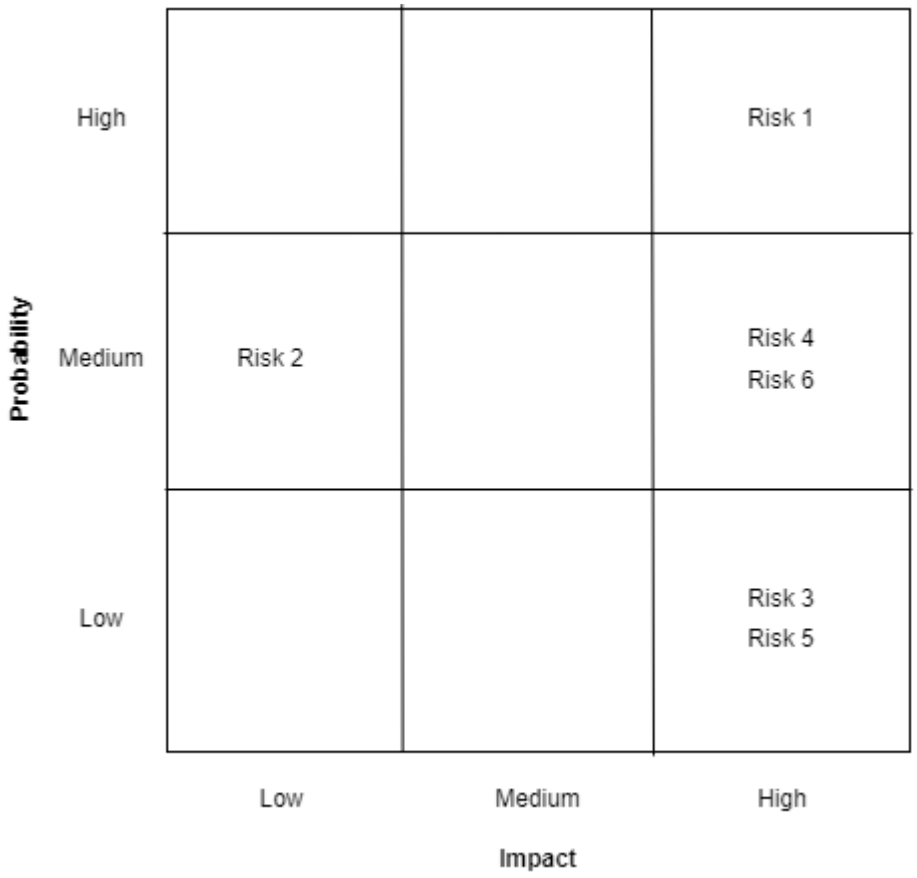
*5.2.6 Risk 6 Lack of Customer Feedback*

| **Risk Registration Table** | | | |
|---|---|---|---|
| **No:** | 6 | **Rank:** | 6 |
| **Risk:** | **Lack of customer feedback** | | |

| | | | | | |
|---|---|---|---|---|---|
| **Description:** | The customer is not consulted either when beginning the project or during the project itself. The customer has little to no input on the project's direction, therefore the end product may not be a good fit for the customer | | | | |
| **Root Cause:** | Lack of communication with stakeholders (customers) | | | | |
| **Triggers:** | Project is carried out with minimal input from customer | | | | |
| **Potential Responses:** | Project manager should schedule a meeting with the customer before project begins to make sure the website has the required features and implementation is to their liking. PM should take the time to understand the customer and clarify any doubts they may have. PM should also schedule regular feedback sessions with the customer to keep the project on track. | | | | |
| **Risk Owner:** | Goo Han Cong (Project manager) | **Probability:** | Medium | **Impact:** | High |
| **Status:** | Project manager will set up the meeting as soon as possible. | | | | |

*5.3 RISK QUALITATIVE AND QUANTITATIVE ANALYSIS*

*5.3.1 Probability Matrix*




## 6.0 RISK MANAGEMENT PLAN TOOLS JUSTIFICATION

Risk management is really important during the process of a project because risk does not inform when it comes and its consequence is unpredictable which can affect the success of the project. According to ni business info, IT

risk management entails a process of identifying, monitoring and managing potential information security or technology risks with the goal of mitigating or minimising their negative impact. IT risk management is categorized into five groups which are market, financial, technological, people and structure. Meanwhile, the risk register is the ultimate tool for identifying and prioritizing risks which includes the possibility of each risk, business impact, way to prevent the risk and who will take action (Team Asana, 2022).

The risk register indicates all the details of the project with statistical data that gives a better understanding. It raises the awareness of the risk owner to more carefully monitor the potential risk to happen so actions can be taken the first time and risks can be mitigated.

Before evaluating the potential response, the objectives have to be listed out to be able to draw up a useful response so the scope of the project is aligned. After identifying the risks, risk analysis has to be performed in terms of quantitative and qualitative.

Qualitative risk analysis tends to be more subjective which focuses more on the likelihood of a specific risk event occurring during the project life cycle and the impact it will have on the overall schedule should it hit (Richard Wood, 2019). It is to determine the severity of all the risks with a risk assessment matrix so it is more clear to understand the utility of each risk.

Quantitative risk analysis is analysed numerically and more objectively and it uses verifiable data to analyze the effects of risks with quantifiable data, for example, risk 1 has a 40% chance of occurring. It provides detailed information regarding the probability and impact of a given risk (Francois Simosa, 2019). It can be used in decision-making when it is a critical business decision as it gives more information. With probability matrix, it can tell what risk should be prioritized and it can be used to identify the main areas of risk exposure that can increase the understanding of the project manager toward the risk.

A contingency plan is produced to mitigate the risks where proactive steps are taken to address the risks before they become big problems.

### *6.1 LACK OF SECURITY IMPLEMENTATION IN SYSTEM*

Due to the improper project team recruitment process, the team does not have a team member who knows how to implement security in the system effectively which can be a risk possessed to the stakeholders. If this is not solved in a proper manner, the consequence can be very serious which can cause the business to shut down. Data breaches can happen and all the data of students are used for any illegal purpose which endangers the safety of the students. The financial stability of Eduexpert can also be affected when a low intake of students happens. The risk response to this case is to avoid whatever can happen because it involves too many perspectives and stakeholders which can directly affect the operation of the business.

The first solution is to hire a security expert for the project team where high wages must be offered. It is a bit wasteful if the security expert only implements security to the system so this solution is doable but is not worth carrying on in terms of budget and value creation.

The second solution is to outsource a third party security software which also needs a certain understanding of what type of security is needed to avoid waste. Security software nowadays is more advanced than before and it is just like a security expert performing all preventive actions. The charges of security software are based yearly and all that needs to be done by the tuition centre is to monitor the activities of the internet traffic.

The third solution is to collaborate with another organisation that has a security expert. It needs certain relationships with the company that benefit is always the thing to be discussed first between the two businesses.

*6.1.1 The hardware and software delivery agreement was not finalized and still under constant change in negotiation terms; while the project timeline is extremely tight.*

While lack of security implementation and quality assurance are the risks where constant change of hardware and software delivery agreements are the main root cause behind it which delayed the project timelines. It is clearly the problem of communication between the stakeholder, tuition center and the project team. Project team does not have expertise in business terms to apply to the system, stakeholders are demanding more functionality to the system for more profits and the tuition center wished the system could leverage its own reputation through transformation of teaching and learning mode.

Tight schedule which has only 24 months to complete the project is too time consuming if spending too much time on the agreement. The team could not start with a software and hardware where it is used for faster development, data processing, testing purposes and implementing security.

This scenario can also happen at the planning phase because the project schedule should be approved and signed off by stakeholders and functional managers. Collaboration between the stakeholders, tuition center and project team is needed to reach a common understanding where the business case of Edufirst has to be clear enough to better scale up the agreement of hardware and software delivery agreement to reduce negotiation during half way of project.

The impact is significant where the requirement is poorly defined and the goals were significantly more likely to fail than those with clear requirements and goals. According to the Standish Group, projects that experienced changes to requirements or goals during development were more likely to experience delays and cost overruns. It simply means that the delays of agreement can affect the whole project in the aspect of costs, time, technical and so on. The agreement is critically important to draw up the project scope where many uncertainties could happen and it can lead to misunderstandings and miscommunication between the development team and stakeholders.

It can also affect the quality of the final product because the project tends to rush development and testing which leads to last-minute changes to meet the agreed-upon timeline that could result in less robustness and may contain bugs and errors. Undetected issues can be the problem when the releases of the final product.

*6.2 LOW ROI*

The causes of low return on investment is that the functions of the system are not well designed and the scope might be too focused on specific areas only. The other possible cause is that the marketing team of Eduexpert does not communicate with the project technical team which they only focus on the technical part only. Low ROI can cause low cash flow where less students are registered which can directly affect the revenue. To solve this problem, marketing and technical aspects must be balanced to ensure nothing is left behind. The strategy of marketing must be reshaped to redefine the customer group that can benefit both sides, which is customer and Edufirst.

*6.3 LACK OF QUALITY ASSURANCE*

Lack of quality assurance is mainly because reviews in the executing process were not done in a proper manner which accountability of the project manager did not take into account. The tight schedule is the main cause and the project charter did not clearly state the details of testing with criteria. The quality assurance engineer might skip some process of testing with an inappropriate tool. The probability of causing the project is 30 % and if it happens, it can have a high impact on EduFirst's sales, reputation, images and so on. Poor quality assurance can simply directly affect the security of the system which data breaches can happen.

According to John Capers, an American software development specialist, testing helps to detect from a quarter to a half of all bugs and testing can help to eliminate hundreds to thousands of bugs before launching the system. Some might be the vulnerabilities that are related to security which the consequences are more serious. Meanwhile, extension of project’s deadline date is needed to ensure the quality reached to the desired goal, which performance and usability are the most important to make sure the satisfaction of customer to this system is positive and most importantly, the system is away from the security risks.

*6.4 HIDDEN COST*

Those hidden costs are potentially the time on changing the agreements and scope which cause higher costs to develop the system. Not only that, the cost could be some other aspects that are required to be implemented in the system development.

Hosting expenses of the initial budget is unavoidable because hosting different types of servers are required and it can be much more expensive than expected.

The maintenance of the system is also unavoidable and it is necessary action for every system to fix bugs and problem which indirectly affect the initial budget after the launch of the system and ROI can be affected due to adding cost to the system.

Training for each team member is also required because not every good engineer and developer understands the operation of the software and each of the team members has to understand the business model, technical depth, infrastructure, and other components of your software. That time spent is actually the hidden cost because the subscription of software is extended once the project has been delayed and spent too much time on the planning phase.

*6.5 TOO LITTLE FOCUS ON BUSINESS VALUE, TOO MUCH FOCUS ON TECHNICAL DETAIL*

The technical people usually do not have a good understanding of business perspective so they usually only focus on developing the functionality in their own way which results in the poor design of the system. According to a study by McKinsey & Company, technical bias is one of the most significant barriers to the success of IT projects. The study found that IT professionals often prioritize technical requirements over business requirements because they are more comfortable working with technical details and feel that technical solutions are more objective and measurable than business solutions. The other factor is also because the business value is not mentioned in the requirements where the technical team just do what must be delivered and within the time and budget instead of delivering business value.

To avoid this issue, the stakeholders and project manager has to give more details on the requirement by more focusing on the business outcome rather than technical requirements. Constant monitoring on the content of tasks is to make sure that the technical team applies the business value while applying the technical requirements.

*6.6 UNCLEAR DIVISION OF RESPONSIBILITIES*

In a team environment, each member of the team should know their roles and responsibilities in order to function effectively and efficiently as a unit. However, the unit quickly breaks down when the team members are unsure of their own roles and responsibilities and things may quickly grind to a halt. Therefore, it is important for the team lead to define each member's role clearly and ensure they know what is expected of them. The team lead should also make sure that every member of the team is aligned with the project goals and promote transparency in the working environment.

*6.7 TEAM LACKS TECHNICAL KNOWLEDGE*

When it comes to actually getting down to business and doing work, technical skills are essential if anything is going to get done. To avoid incurring any extra costs, project managers should take their prospective team members' skills into consideration before choosing them for a given project. A lack of technical skill may lead to the scope of the project needing to be reduced, or cancelled altogether. If these are not viable options, additional funds may need to be spent to train the existing team members or hire external contractors who do possess the necessary skills to complete the project successfully.

*6.8 LACK OF CUSTOMER FEEDBACK*

Good stakeholder management is crucial to the success of the project. Maintaining good relationships with stakeholders is an important aspect of the project manager's job. Customers as end users are important stakeholders and it is of course important that they are satisfied with the end product. Toward this end, it is important that the customer is consulted before beginning the project to get a good idea of what they expect from

the end product. The customer should also be able to give feedback on the product throughout the project's life cycle to ensure that it is in line with their expectations.

## 7.0 CONCLUSION

This report contains the details of the proposed EduTailor project and considerations that should be made to ensure its success. These considerations include a risk assessment and management plan which details some of the issues that are being faced by the project team and steps that would be taken to deal with these issues.

The project business case stated in the project charter is weak, which may indicate that the product may not perform well in the market and generate a return on investment. To this end, care is given to both the technical and market-facing aspects of the project as this will ensure the project is well-suited for and does well in the current market.

Due to management issues, the team does not possess the required technical skills and knowhow to develop the project. Hiring of staff did not take into consideration skills required for development of the project. To this end, the project manager will either hire external contractors with the necessary skills to develop the project or send the team members to undergo training to develop said skills. Which decision is made will depend on the time and cost constraints. Without one of these solutions, the project will fail as some of the features are unable to be implemented.

The project team also lacks the technical skills to implement proper security into the final product. The solutions proposed are to hire a security expert to implement this security into the system, purchase an external security software solution, or collaborate with another educational institution to use their expertise. All these solutions are viable in order to implement security into the system and at least one is needed to store customer data securely and prevent breaches of customer data.

Another issue facing the project was the hardware and software delivery agreement was not finalised and constantly changing. The solution used was to use a project charter as a form of verbal agreement between all stakeholders, which includes the hardware and software vendors. This charter sets out the project information clearly and helps the sponsors commit to the project.

The project constantly underwent scope changes that caused the cost of the program to increase past the initially specified amount. Creating this project charter sets the project scope clearly from the get-go to prevent scope creep.

The customer was not involved at the beginning of the project and customer involvement was gradually reduced as the project went on. To combat this, the project manager sets up a meeting with the client before starting the project, and periodic meetings are conducted so the client has a say in the project's development.

The team also prioritized technical detail over business value. The project manager has to steer the conversation with team members to be more business-oriented and focus on value to stakeholders as well.

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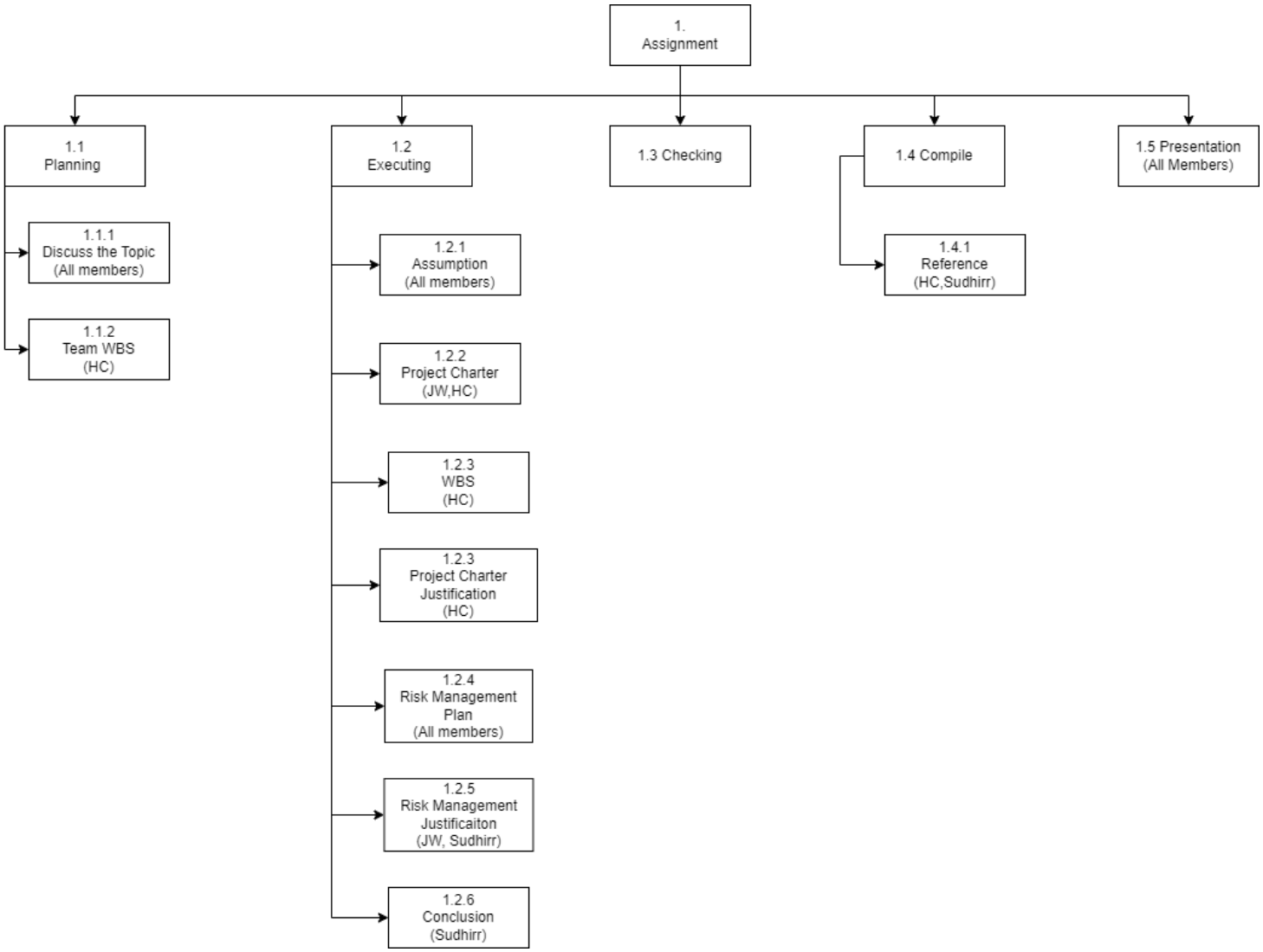
# 9.0 APPENDIX


1.
Assignment
1.1
Planning
1.1.1
Discuss the Topic
(All members)
1.1.2
Team WBS
(HC)
1.2
Executing
1.2.1
Assumption
(All members)
1.2.2
Project Charter
(JW,HC)
1.2.3
WBS
(HC)
1.2.3
Project Charter
Justification
(HC)
1.2.4
Risk Management
Plan
(All members)
1.2.5
Risk Management
Justificaiton
(JW, Sudhirr)
1.2.6
Conclusion
(Sudhirr)
1.3 Checking
1.4 Compile
1.4.1
Reference
(HC,Sudhirr)
1.5 Presentation
(All Members)