



PROJECT MANAGEMENT AND RESEARCH METHODOLOGY

TEAM-BASED PROJECT MANAGEMENT TASK

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ACRONYMS

MSc	Master of Sciences
IT	Information Technology
HR	Human Resource
WBS	Work Breakdown Structure
ROI	Return On Investment
SRS	System Requirement Specification
NPV	Net Present Value
IRR	Internal rate of return
QA	Quality Assurance
SPMP	Software Project Management Plan

1. INTRODUCTION

This project is to deliver our course work of Project Management and Research Methodology module which is a Team-based project management task. This coursework can be regarded as a project and must be managed appropriately. As MSc student, this is our opportunity to demonstrate and showcase our knowledge and understanding of the project management tools and techniques. Our lecturer expect from us .Students need to be able to plan a project that involves many interacting factors, and undertake a literature review and other development activities to improve understanding of the situation and/or produce organizational change. And to determine and use appropriate methods, techniques and tools for planning work, and to take responsibility for completing on time, and to the required standard, taking into account relevant risks and ethical issues.

Throughout this process, we learn about working as a team. The team members also discovered how crucial it is to communicate with diverse stakeholders using a variety of channels, such as emails, project reports, status updates, and frequent team meetings. The team members made sure that information was shared quickly and effectively by using a variety of communication techniques, which kept everyone informed and involved in the project. They were able to enhance communication efficiency and contribute to the project's success by being receptive to input and making necessary adjustments.

In summary, the team members gained knowledge about the importance of effective communication in project management and how it promotes cooperation, problem-solving, and the successful completion of projects and practical understanding the overarching goals of the coursework, which could involve acquiring specific knowledge of project management, developing skills, or achieving outcomes.

1.1 Problem Statement

The absence of exams in our study poses a significant challenge as it requires an alternative method for evaluating student performance and understanding of the material. Additionally, without exams, it becomes challenging to gauge the effectiveness of teaching methods and the extent to which learning objectives are being met. This requires careful consideration of various assessment strategies, including assignments, projects, presentations, quizzes, discussions, and other interactive learning activities. By addressing this challenge effectively, University can enhance the overall learning experience and support student success in this course module.

2. SCOPE MANAGEMENT

2.1 Project Summary

A narrated PowerPoint presentation needs to be prepared by our group. Two topics are available to choose from: "Project Communications Management" and "Project Procurement Management". Project Communications Management is chosen. This presentation is to be in the form of an educational lecture and is expected to last between 18 to 20 minutes.

Another task is, DIDDLE is a large independent groceries and general merchandise retailer. Which is about to embark on a large IT project that will completely overhaul its existing computer systems. It is planning to replace the current IT services such as HR & Payroll, Finance and Stock Control as well as introducing new, specialist services for example Sales Analysis, Marketing, Delivery Fleet Management and Customer Loyalty Scheme. Involves using evaluation methods to assess the financial viability of the proposed project based on the given estimated cost and benefit values.

It must then be recommend whether DIDDLE proceed with the project or not. Consideration should be given to the influence estimation errors have on our calculations and recommendations. Suggestions for increasing the profitability of the project might also be desired.

2.2 Collect requirements

The assessment description was used as inputs to define the scope of our project. After gaining an understanding of the requirements, the scope was defined and a work breakdown structure for activities and work structures was created. Subsequently, clear ideas about our project were obtained by the team members.

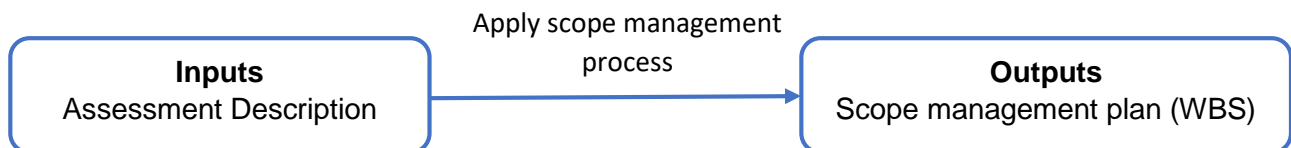


Figure 1 Scope Management process

2.3 Define Scope

After requirements were gathered, our project was defined by team, and a comprehensive understanding of the project's activities and structures was achieved. Within this phase, the product scope, project scope, constraints, and assumptions of our project were defined.

2.3.1 Purpose Objective and Scope

Project Purpose

Understanding the overarching goals of the coursework, which could involve acquiring specific knowledge of project management, developing skills, or achieving particular outcomes.

Product Objectives

A high-quality narrated PowerPoint video on the topic of communication management is to be produced.

Conduct a financial assessment to determine the cost-effectiveness and potential return on investment (ROI) of the new system.

Project Scope

The video is to be in the form of an educational lecture and is expected to last between 18 to 20 minutes.

The financial assessment will analyze the costs associated with new project and estimate potential revenue generated from increased company revenue.

2.3.2 Assumptions and Constraints

Assumptions

- ✓ Team members will follow the requirements specified in SRS.
- ✓ Team members will work on the project outside the class to finish it on time.
- ✓ Risk information is shared transparently among project team members.
- ✓ We treated our lecturer as our client.
- ✓ Resource availability and utilization information is communicated transparently among project team members.
- ✓ Estimating processes are transparent and collaborative.

Constraints

- ✓ Limited resources or time available for scoping activities.
- ✓ Uncertainty in risk assessment or limited resources for risk mitigation.
- ✓ Budget constraints or time limitations affecting quality assurance activities.
- ✓ Resource shortages or competing demands for resources.
- ✓ The risk of relying on personal laptops for our work is compounded by the fact that each team member is located in different places.

2.3.3 Budget and Schedule summaries

Since there is no budget allocated for this project, here is the plan we devised.

According to the assessment guidelines. The first deliverable is aimed to be delivered on 25th March 2024, followed by the second deliverable on 1st April 2024. Deliverable 3 and 4 are planned to be completed on 8th April 2024, and all tasks of this coursework are scheduled to be finished on 13th April 2024. Submission is planned for 14th April 2024.

2.3.4 Project Deliverables

- ✓ Completed narrated PowerPoint presentation video.
- ✓ Financial Business Justification assessment report.

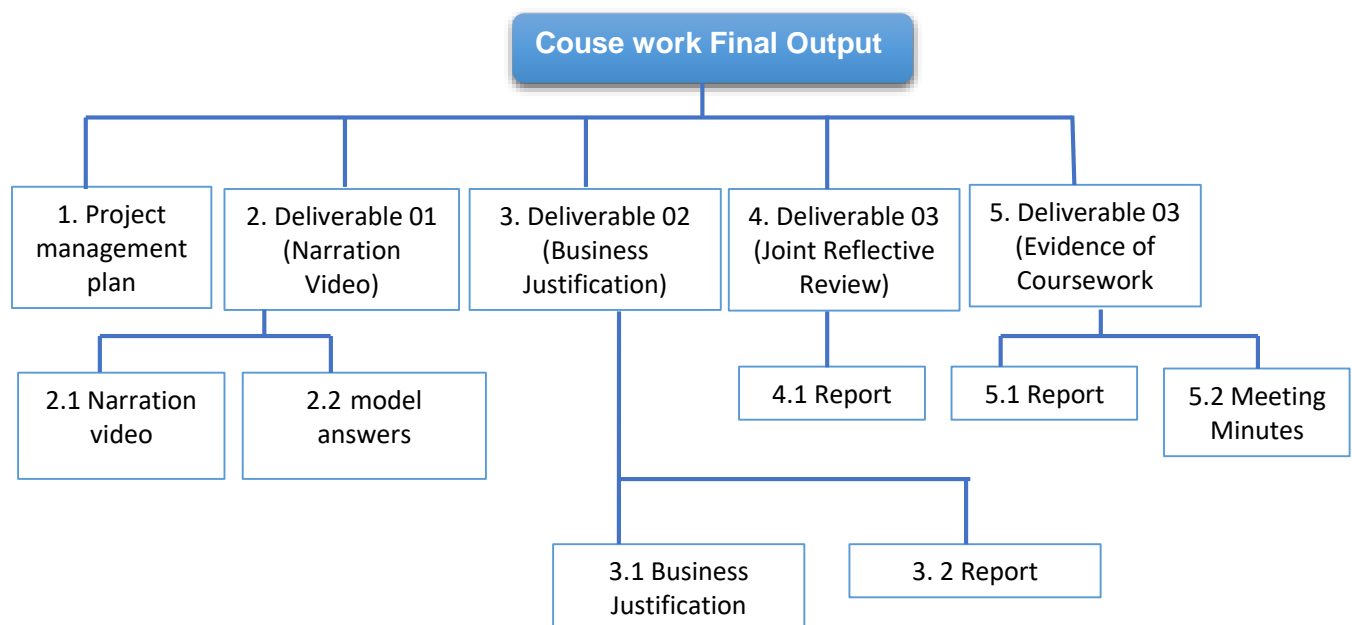


Figure 2 Product breakdown structure diagram

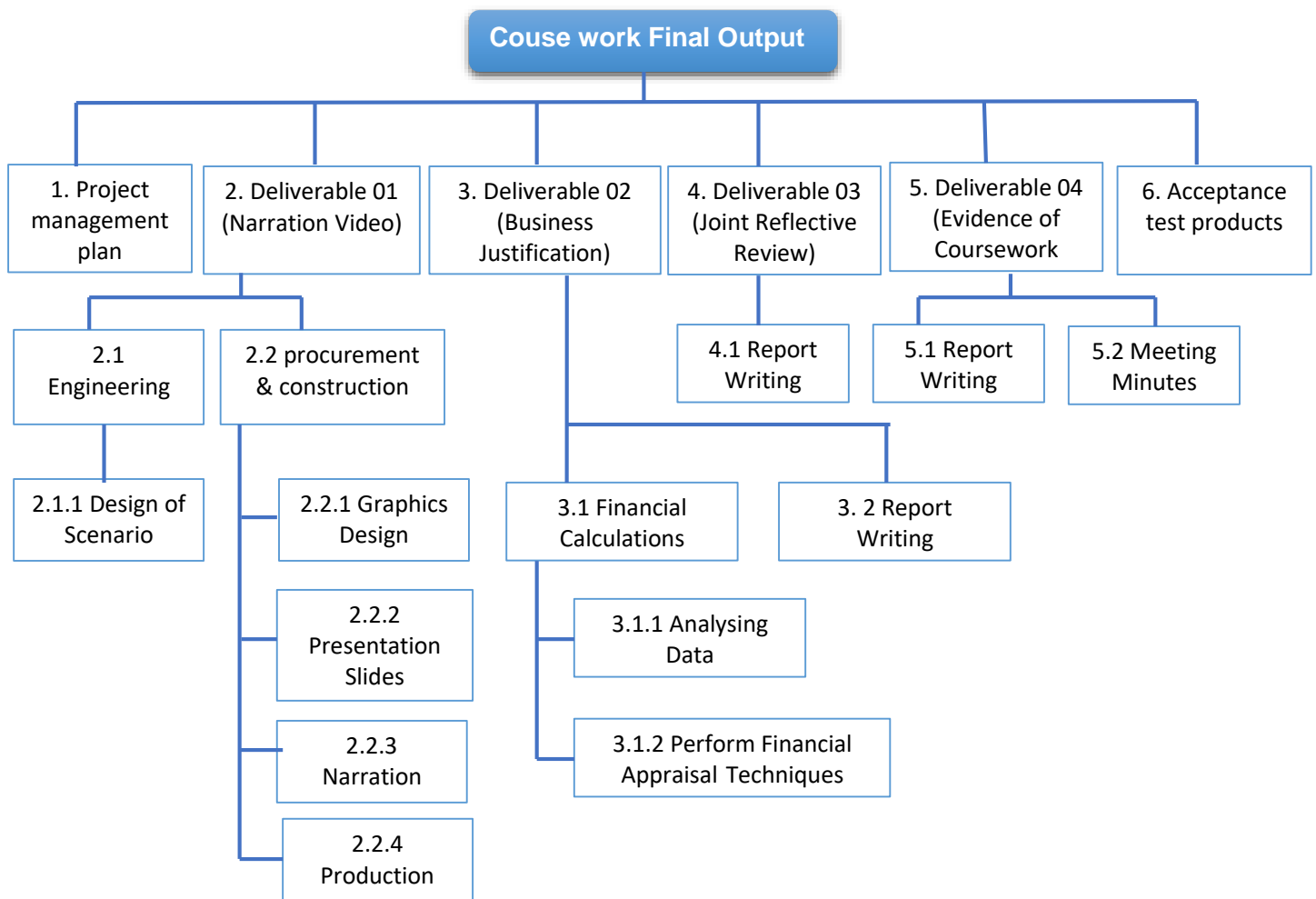


Figure 3 Activity breakdown structure diagram

Work Breakdown Structure

WBS		Estimated time (day)	Weight (%)
ENGINEERING		7.5	25.00
A	Design of Scenario	7.5	25.00
1	Preface	0.5	1.67
2	Types of Audiences	0.5	1.67
3	Communication Plans	0.5	1.67
4	Communication Design	0.5	1.67
5	Two way Communications	0.5	1.67
6	One Way Communications	0.5	1.67
7	Formal & Informal	0.5	1.67
8	Messages	2	6.67
8	Presentation and meetings	1.5	5.00
9	Conclusion	0.5	1.67
PROCUREMENT & CONSTRUCTION		22.5	75.00
B	Graphics Design	5	16.67
1	Graphic Gifts	2	6.67
2	Static Pictures	3	10.00
C	Power Point	8.5	28.33
1	Structure	1	3.33
2	Content	2.5	8.33
3	Transitions	5	16.67
D	Narration	2.5	8.33
1	Voice generation	2.5	8.33
E	Production	4	13.33
1	Synching Slides to Narrations	2.5	8.33
2	Generation	1.5	5.00
F	QA	2.5	8.33
1	Quality standards	2.5	8.33
Total		30.00	100.00

Table 1 WBS for Deliverable 01

WBS		Estimated time (day)	Weight (%)
Financial Calculations		20	80.00
A	Analyzing Data	7	30
1	Understand the terms and subjects	7	30
B	Perform Financial Appraisal Techniques	13	50
1	Cost Analyzing	3	10.25
2	Calculate Initial Investment	1	4.25
3	Calculate Annual Recurring Cost	1	4.25
4	Calculate Benefits cost	3	10
5	Annual Net Cash Flow	1	4.25
6	Calculate Net present Value(NPV)	1	4.25
7	Calculate Payback Period	1	4.25
8	Calculate Internal rate of return (IRR)	1	4.25
9	Conclusion	1	4.25
Report Writing		10	20.00
C	Prepare Project Business Justification	8	15
1	Write report	7	10
2	Edit the report in a correct Formatting	1	5
D	QA	2	5
1	Quality standards	2	5
Total		30.00	100.00

Table 2 WBS for Deliverable 02

WBS		Estimated time (day)	Weight (%)
Report Writing		6	100.00
A	Prepare Report	5	85
1	Team Detail Description	1	17
2	Project Management Methodology	2	34
3	What We Learned?	1	17
4	Conclusion	1	17
B	QA	1	15
1	Quality standards	1	15
Total		30.00	100.00

Table 3 WBS for Deliverable 03

WBS		Estimated time (day)	Weight (%)
Report Writing		20	66
A	Prepare Report	20	66
1	Scope management	3	9.9
2	Time management	2	6.6
3	Risk management	2.5	8.25
4	Quality management	3	9.9
5	Resource management	2.5	8.25
6	Cost management	1.5	4.95
7	Communication management	3	9.9
8	Conclusion	2.5	8.25
B	Meeting Minutes	6	20
1	Meeting Minutes 01	1	3.33
2	Meeting Minutes 02	1	3.33
3	Meeting Minutes 03	1	3.33
4	Meeting Minutes 04	1	3.33
5	Meeting Minutes 05	1	3.33
6	Meeting Minutes 06	1	3.33
C	QA	4	14
1	Quality standards	4	14
Total		30.00	100.00

Table 4 WBS for Deliverable 04

3. PROJECT ORGANIZATION

3.1 External Interfaces

We treated our lecturers (Mark Ware, Ian Fitzell, Rob Berry) as our client. Our lecturer thoroughly explains all aspects of our coursework during our lectures, we took into account both the lecturer's requirements and the time available for complete the coursework. Throughout the process, we maintained open communication with the lecturer, ensuring they were kept informed about the project's progress.

3.2 Internal Structure

Project Team

- ✓ Business Analyst - Gather all the necessary information and details regarding the coursework. Then, prepare a business justification for deliverable 2.
- ✓ Design Team – Preparing Graphic design for PowerPoint presentation Video.
- ✓ Development Team- Preparing Slides and content for PowerPoint presentation
- ✓ QA Team - Evaluates prototypes as they are made available and tests for worst case scenarios. Then prepare documentation for other course work activities.

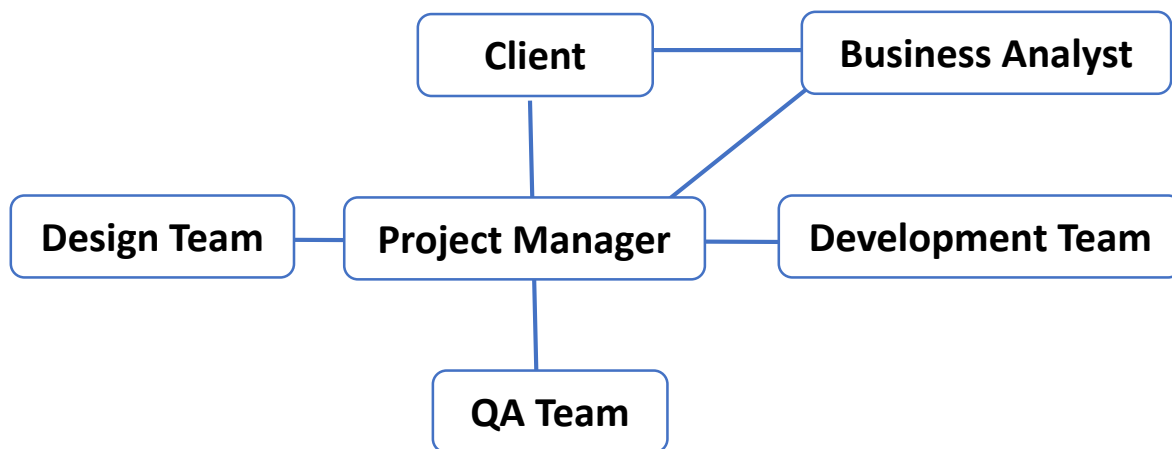


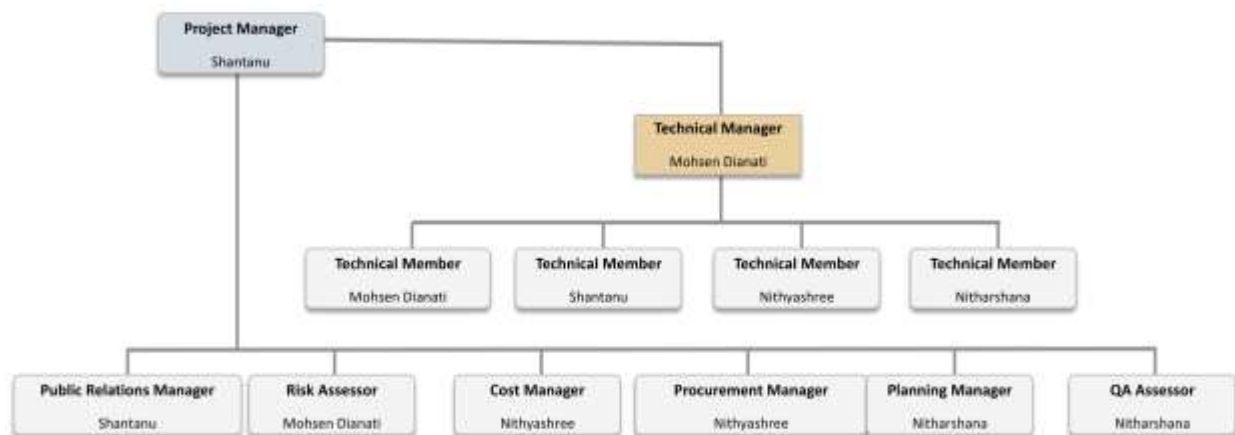
Figure 4 project Team

3.3 Roles and Responsibilities

- ✓ Shantanu Shamsundar - Project Manager, Public Relations Manager, Technical Member
- ✓ Mohsen Dianati - Technical Manager, Risk Assessor, Technical Member
- ✓ Nithyashree Thimmegowda - Cost Manager, Procurement Manager, Technical Member
- ✓ Nitharshana Thayanantham - Planning Manager, QA Assessor, Technical Member

PROJECT ORGANISATION CHART

Communication Management Project



University Of South Wales

Mr. Mark Ware

Figure 5 Project organization Chart

4. PROJECT PLANNING

4.1 Estimation Plan

- ✓ Understanding the specifications of the coursework.
- ✓ Identifying the resources available to support students to completing this coursework, such as textbooks, online materials, academic journals, software tools, or access to laboratories or equipment.
- ✓ Outlining the schedule or timeline for the coursework, including important dates such as assignment due dates and project milestones.
- ✓ Create guidelines for working prototypes.
- ✓ Create estimated deadlines and task completions deadlines to create these prototypes on time.

4.2 Time Management

4.2.1 Define Activities & Sequence of Activity

The project is broken down into smaller activities (or tasks). This involves the decomposition of the major project, which is already defined in Scope Management processes, into activities that can be estimated. The activities are arranged in the order they are to be undertaken, and dependencies between activities are identified in this stage of our project as follows.

A network diagram has been created to facilitate understanding and tracking of our project, along with its activities and schedule. Nodes have been used to represent activities, each depicted within its respective box.

Early Start (ES) - The earliest possible time an activity can start, considering the earliest start times of all preceding activities and any imposed constraints.

Late Start (LS) - The latest possible time an activity can start without delaying the project's completion time, considering the late start times of all succeeding activities and any imposed constraints.

Early Finish (EF) - The earliest possible time an activity can finish, calculated based on its early start time and duration.

Late Finish (LF) - The latest possible time an activity can finish without delaying the project's completion time, calculated based on its late start time and duration.

Float (or Slack) - The amount of time that an activity can be delayed without affecting the project's completion date. It is calculated as the difference between the late start and early start times, or the late finish and early finish times, for a given activity.

Duration - The length of time required to complete an activity, usually expressed in units such as days, weeks, or hours.

ES	Duration	EF
Activity identifier / description		
LS	Float	LF

Figure 6 Network Diagram Activity Node

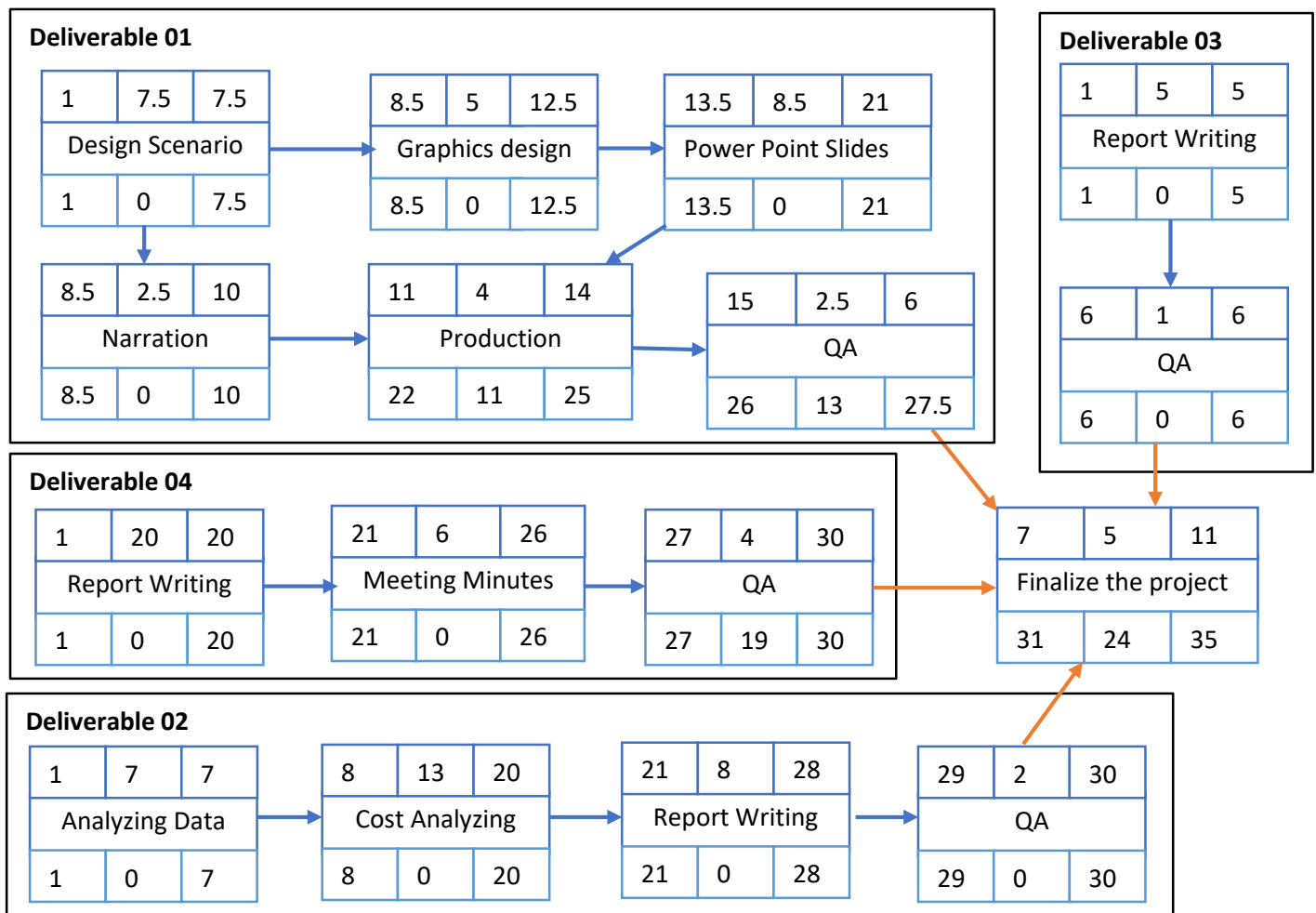


Figure 7 Network Diagram

4.2.2 Estimate Activity duration

Id	Activities	Predecessors	Estimated Duration(Days)	Resource
Deliverable 01				
01	Design of Scenario	-	7.5	Mohsen Dianati
02	Graphics Design	01	5	Nithyashree
03	Power Point Slides	02	8.5	Mohsen Dianati & Nithyashree
04	Narration	01	2.5	Mohsen Dianati
05	Production	03,04	4	Mohsen Dianati
06	QA	05	2.5	Nithyashree
Deliverable 02				
07	Analyzing data	-	7	Shantanu & Nitharshana
08	Cost Analyzing	07	13	Shantanu
09	Report Writing	08	8	Mohsen Dianati
10	QA	09	2	Nitharshana
Deliverable 03				
11	Report Writing	-	5	Nithyashree
12	QA	11	1	Mohsen Dianati
Deliverable 04				
13	Report Writing	-	20	Shantanu & Nitharshana
14	Meeting Minutes	-	6	Nitharshana
15	QA	13,14	4	Shantanu
16	Finalize the project	06,10,12,15	5	All Team Members

Table 5 Activity Table

4.2.3 Develop Schedule

Detailing the schedule or timeline for the coursework, which encompasses significant dates such as assignment due dates and project milestones.

4.2.3.1 Schedule Allocation

Milestones

Completion of Deliverable 1 – Narrated PowerPoint Presentation – 25/03/2024

Completion of Deliverable 2 – Project Business Justification- 01/04/2024

Completion of Deliverable 3 – Joint Reflective Review – 08/04/2024

Completion of Deliverable 4 – Evidence of Coursework Management- 08/04/2024

Validate whether all deliverables are correct or not- 13/04/2024

Submit our Coursework -14/04/2024

4.3 Resource Allocation

All the software required for this project is free. However, laptops and internet facilities are necessary. Additionally, there are workstations available in our university computer labs that have all the necessary software for each group member. We utilized Microsoft PowerPoint for creating the pages and ttsmaker.com to convert scenarios into voiceovers and integrate them into PowerPoint. Furthermore, all of us have access to Microsoft software.

Each member has access to the same resources all the other members. The resources include Microsoft power point, and the workstations available for all the students in our university computer labs.

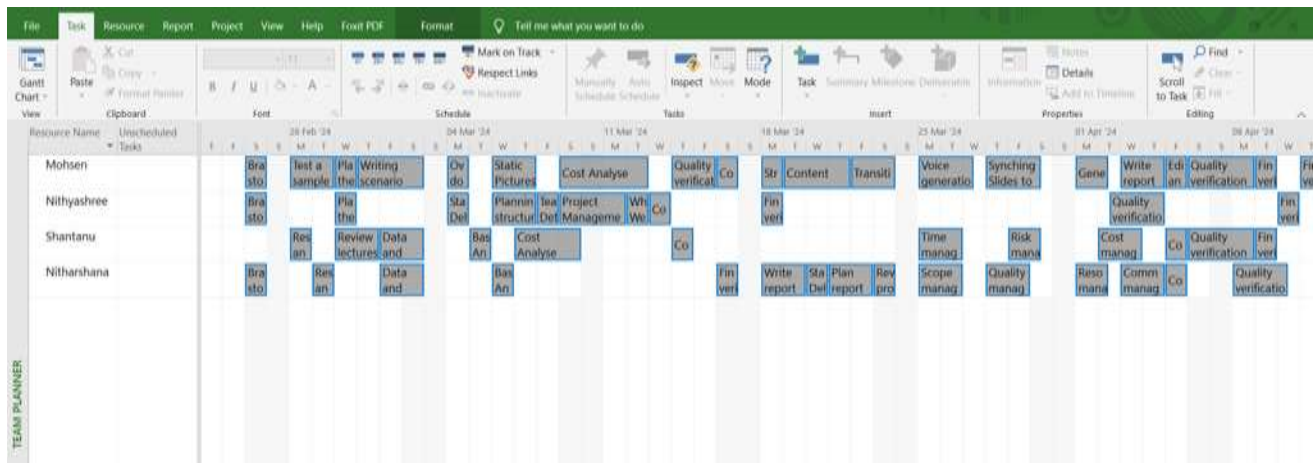


Figure 8 MS Project Team planner module

4.4 Cost management

The Project Manager will oversee and monitor the project's expenses throughout the project life cycle. In the monthly project status meetings, the Project Manager will deliver updates on the project's cost performance.

To calculate the cost and comply with hypothetical budget we used WBS to mirror the CBS. Regardless of costs of assets, and current expenses, we broke down the tasks and calculated their weight according to the allocated time. Using this method we can break the overall budget down to each task and its section.

WBS - Deliverable-01	Estimated time (day)	Weight (%)	Budget (£)	Progress (%)	Earned Value (£)
Planning	7.0	26.9%	269.2	100.0%	269.2
A Design of Scenario	7.0	26.9%	269.2	100.0%	269.2
1 Brain storm and study	1.0	3.8%	38.5	100.0%	38.5
2 Pilot test to verify scope and schedule	2.0	7.7%	76.9	100.0%	76.9
3 Planning the work	1.0	3.8%	38.5	100.0%	38.5
4 Writing scenario	3.0	11.5%	115.4	100.0%	115.4
Execution	18.0	69.2%	692.3	100.0%	692.3
B Graphics Design	3.0	11.5%	115.4	100.0%	115.4
1 Overall document design	1.0	3.8%	38.5	100.0%	38.5
2 Static Pictures	2.0	7.7%	76.9	100.0%	76.9
C Powerpoint Slides	6.0	23.1%	230.8	100.0%	230.8
1 Structure	1.0	3.8%	38.5	100.0%	38.5
2 Content	3.0	11.5%	115.4	100.0%	115.4
3 Transitions	2.0	7.7%	76.9	100.0%	76.9
D Narration	2.5	9.6%	96.2	100.0%	96.2
1 Voice generation	2.5	9.6%	96.2	100.0%	96.2
E Production	4.0	15.4%	153.8	100.0%	153.8
1 Synching Slides to Narrations	2.5	9.6%	96.2	100.0%	96.2
2 Generation	1.5	5.8%	57.7	100.0%	57.7
F QA	2.5	9.6%	96.2	100.0%	96.2
1 Quality verification	2.5	9.6%	96.2	100.0%	96.2
Closing	1.0	3.8%	38.5	100.0%	38.5
G Finalisation	1.0	3.8%	38.5	100.0%	38.5
1 Final verification and pack	1.0	3.8%	38.5	100.0%	38.5
Total	26.0	100.0%	1000.0	100.0%	1000.0

Table 6 An example of WBS/CBS (budget=£1000) when all activities are 100%

However, utilizing earned value calculations, it is the Project Manager's responsibility to analyze any cost discrepancies and provide the team members with strategies to realign the project with its budget.

4.5 Risk Management

The approach for managing risks for this coursework includes a methodical process by which the project team identifies, scores, and ranks the various risks. Every effort will be made to proactively identify risks ahead of time in order to implement a mitigation strategy from the project's onset.

The most likely and highest impact risks were added to the project schedule to ensure that the assigned risk managers take the necessary steps to implement the mitigation response at the appropriate time during the schedule. Risk managers will provide status updates on their assigned risks in the weekly project team meetings, but only when the meetings include their risk's planned timeframe.

Upon the completion of the project, during the closing process, the project manager will analyze each risk as well as the risk management process. Based on this analysis, the project manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base.

4.5.1 Project Risks

- ✓ Technical issues during narration power point presentation video.
- ✓ The risk of relying on personal laptops for our work is compounded by the fact that each team member is located in different places.
- ✓ Due to the high volume of tasks at hand, we anticipate that there may be a delay in submission.
- ✓ Errors may occur during the calculation of financial appraisal techniques.
- ✓ Lack of contingency planning
- ✓ Team members get illness
- ✓ Scope creep-Additional requirements added to the project after initiation can increase complexity, resource usage, and project duration.
- ✓ Resource constraints-Limited availability of skilled personnel, budgetary constraints, or hardware/software limitations can impact project execution and deliverables.

4.5.2 Risk Mitigation Strategies

- ✓ The team will meet regularly to make sure that the production is not stopped at one particular point.
- ✓ Maintain regular communication with the narrated power point presentation video production team to address any technical issues promptly.
- ✓ Identify alternative data sources for the financial assessment in case of delays.
- ✓ There will be scheduled deadlines that everyone will be following to make sure the project is not delayed.

- ✓ Each team member will be kept up to date, and inform managing team of any changes or difficulties that might affect their ability to complete the task they are given on time.
- ✓ Since we have already defined the assessment description and established a comprehensive scope management plan, scope creep can be effectively avoided.

4.5.3 Measuring risk exposure

Risk exposure analysis is a critical component of project management, providing insights into the potential impact of identified risks on project objectives. In this section, we present the results of our risk exposure analysis for our project.

In this project risk exposure was measured qualitatively. High, significant, medium, and low were used for assessing risk exposure.

Risk Id	Risk Description	Probability	Impact
01	Technical issues	Low	High
02	The risk of relying on personal laptops for our work is compounded.	Low	significant
03	Delay in submission	High	High
04	Errors may occur during the calculation	High	High
05	Lack of contingency planning	medium	medium
06	Team members get illness	Low	Low
07	Scope creep	Low	High
08	Resource constraints	significant	significant

Table 7 Measuring Risk Exposure

4.6 Project Communication Plan

This Communications Management Plan establishes the communication framework for the project. It will act as a reference for communication practices throughout the project's lifecycle and will be adjusted as communication needs evolve. The plan outlines and clarifies the responsibilities of project team members regarding communication. Additionally, it features a communication matrix that delineates the project's communication requirements, as well as protocols for meetings and other forms of communication. Furthermore, a project team directory is provided to furnish contact details for all stakeholders directly engaged in the project.

The Project Manager will assume primary responsibility for ensuring effective communication throughout the project. The communication requirements are detailed in the Communications Matrix below. This matrix will serve as a guideline for determining what information needs to be communicated, who will be responsible for communicating it, when it should be communicated, and to whom it should be communicated.

4.6.1 Stakeholder Information

PERSON	ROLE / TITLE	CONTACT INFORMATION	COMMUNICATION FREQUENCY	FORMAT / CHANNEL	NOTES
Shantanu Shamsundar	Project Manager, Public Relations Manager & Technical Member	30123358@students.southwales.ac.uk	weekly, monthly	The Project Manager facilitates the meeting, does weekly progress reports, and sends monthly, high-level timeline/budget/progress updates to the team.	Go-to for problem solving and questions
Mohsen Dianati	Technical Manager, Risk Assessor & Technical Member	30120998@students.southwales.ac.uk	weekly, monthly	The team member participates in weekly check-in meetings and emails.	
Nithyashree Thimmegowda	Cost Manager, Procurement Manager & Technical Member	30119304@students.southwales.ac.uk	weekly, monthly	The team member participates in weekly check-in meetings and emails.	
Nitharshana Thayanantham	Planning Manager, QA Assessor & Technical Member	30119539@students.southwales.ac.uk	weekly, monthly	The team member participates in weekly check-in meetings and emails.	QA reports on testing status and bug squashing.
Mark Ware, Ian Fitzell, Rob Berry (Lecturers)	Client	Mark.ware@southwales.ac.uk			Not involved in meeting

Table 8 Stakeholder Information

4.6.2 Communication Types

TYPE	WHEN / WHERE / PARTICIPANTS
WhatsApp Group Chatting	This is open-ended, real-time communication and file sharing.
SHARE	

- Include documentation.
- Ask questions so everyone can see.

Table 9 Communication Type 1

TYPE	WHEN / WHERE / PARTICIPANTS
SPRINT PLANNING AND RETROSPECTIVE	At the start and end of each two-week sprint, we meet to discuss what will be accomplished or to analyze the successes and failures of the past sprint.
SHARE	
<ul style="list-style-type: none"> • Share two days in advance: <ul style="list-style-type: none"> ○ Agenda for meeting ○ Product backlog ○ QA report ○ Attendees needed for meeting • Meeting format: <ul style="list-style-type: none"> ○ Agenda review ○ Review product backlog ○ Questions/discussions ○ Next steps review • Email (immediately after meeting): <ul style="list-style-type: none"> ○ Meeting notes to all attendees ○ Meeting Minutes ○ Sprint goals 	

Table 10 Communication Type 2

4.7 Quality management

Project quality management was not implemented as an independent or separate process conducted at the end of individual activities to measure the level of output quality. Instead, in our project, it was a continuous process that commenced with the project's initiation and concluded with its closure. It was integrated into every project management process, beginning from the project's review to the final stages during the closure phase.

While following Quality Management process produced the following outcomes to our project:

- ✓ Continuous enhancements to processes were implemented to improve excellence of product, which included removing unnecessary things.
- ✓ The high level of participation in the decision-making process influenced the improve error free product.

- ✓ Effective strategic planning facilitated the prioritization to the implementation of a Total Quality Management Approach.
- ✓ Removes many trivial errors.

This project successfully attained the goals established at the outset, meeting the required quality standards. All project activities were executed in accordance with the specifications outlined in the project work-plan. The intended aims and planned outputs of the project were successfully realized. The methodology proposed within the project demonstrates how the utilization of resources can effectively address.

4.8 Project Documentation

The management team will be responsible for preparing the Software Requirements Specification (SRS) and Software Project Management Plan (SPMP). To enhance the software development process, it is imperative to generate comprehensive documentation for the source code provided. Some features may not be feasible to implement within the current timeframe and have thus been deferred to the subsequent development phase. By writing high-quality code now, documenting it thoroughly, and creating a robust maintenance manual, the future development team will be equipped to implement any necessary changes efficiently. We ensured that the client remained informed about these features, enabling them to assist the future development team in determining the next steps.

5. PROJECT EXECUTION

5.1 Methods, Tools and Techniques

- ✓ Method: Mixed Iterative and Incremental Development Model
- ✓ Tools: Microsoft power point and ttsmaker.com
- ✓ Techniques: Regular meetings with the client.

5.2 Incremental Process Model

Initially, a rudimentary system is constructed, incorporating only a limited set of fundamental features, which is then provided to the client. Subsequently, numerous successive iterations or versions are developed and delivered to the customer until the final desired system is achieved and released.

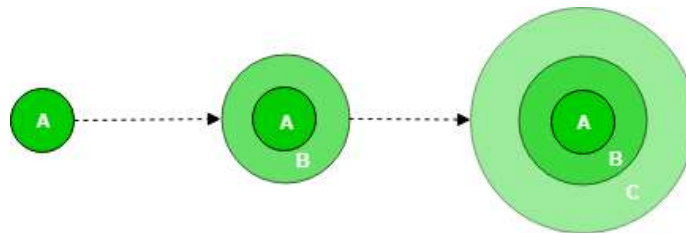


Figure 9 Incremental Process

A, B, and C are modules of Software Products that are incrementally developed and delivered.

Phases of incremental model

The software requirements are initially divided into multiple modules, which can be constructed and delivered incrementally.

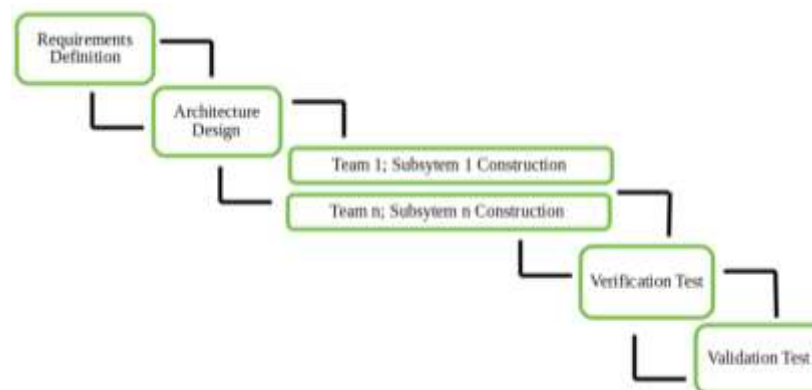


Figure 10 Parallel Development Model

Requirement analysis: In Requirement Analysis At any time, the plan is made just for the next increment and not for any kind of long-term plan. Therefore, it is easier to modify the version as per the needs. We understand our course works and every deliverable. We planned to analyze about first deliverable. Small parts are divided within first deliverable.

Design & Development: At any given time, the plan focuses solely on the next increment and not on any long-term strategy. This approach facilitates easier adaptation to changing needs. Initially, the Development Team focuses on developing core features. Subsequently, these features undergo refinement to enhance their capabilities by incorporating new functions in successive versions. Typically, each incremental version follows an iterative model of development. For first deliverable the division is into scenario, narration, presentation, synchronization, and finalization Likewise.

Deployment and Testing: Following requirements gathering and specification, the requirements undergo division into various versions, commencing with version 1. Subsequently, with each successive increment, the subsequent version is built and deployed. During development and testing, the product undergoes verification and testing to ensure alignment with the model's actual processes.

Implementation: During implementation, once the final version (version n) is completed, it is submit our course work.

5.2.1 Reason for Choosing the Mixed Iterative and Incremental Process Model

- ✓ Software is developed rapidly.
- ✓ The project's objectives are well-defined.
- ✓ Implementing changes is straightforward.
- ✓ Iterations in the model support risk management.
- ✓ Flexibility in adjusting criteria and scope results in lower costs.
- ✓ Compared to other models, it is more cost-effective.
- ✓ It enables parallel development simultaneously.
- ✓ Identifying errors is straightforward.

5.3 Mixed iterative and incremental Process model

For our coursework, the mixed iterative and incremental development model has been chosen because it facilitates the simultaneous development of different subsystems. This choice aligns with our requirement to produce four deliverables at the same time. By allowing parallel development, this model has the potential to significantly reduce the overall calendar time required for the development process.

Initially the Incremental Process Model, alternatively known as the Successive Version Model, will be used for this project (course work). The project was divided among the team members. Each person's task was carried out using the iterative model. Subsequently, our tasks were integrated to achieve a single final deliverable (incremental).

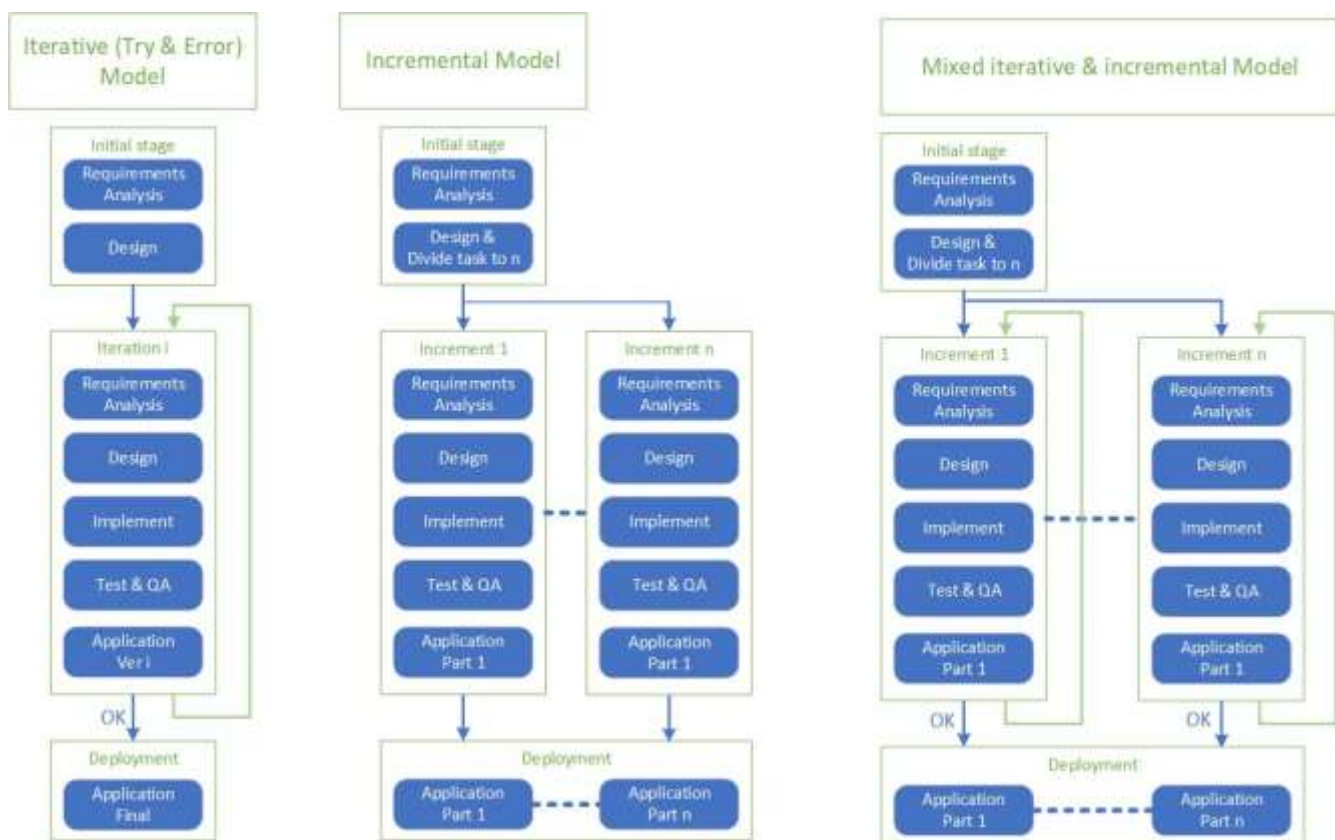


Figure 11 Mixed iterative and incremental model

Various stages in the software development lifecycle are outlined, starting from requirements analysis, design, implement testing and deployment. An incremental process model is followed to divide tasks for four deliverables, with each increment being referred to as a task performed by an iterative process model.

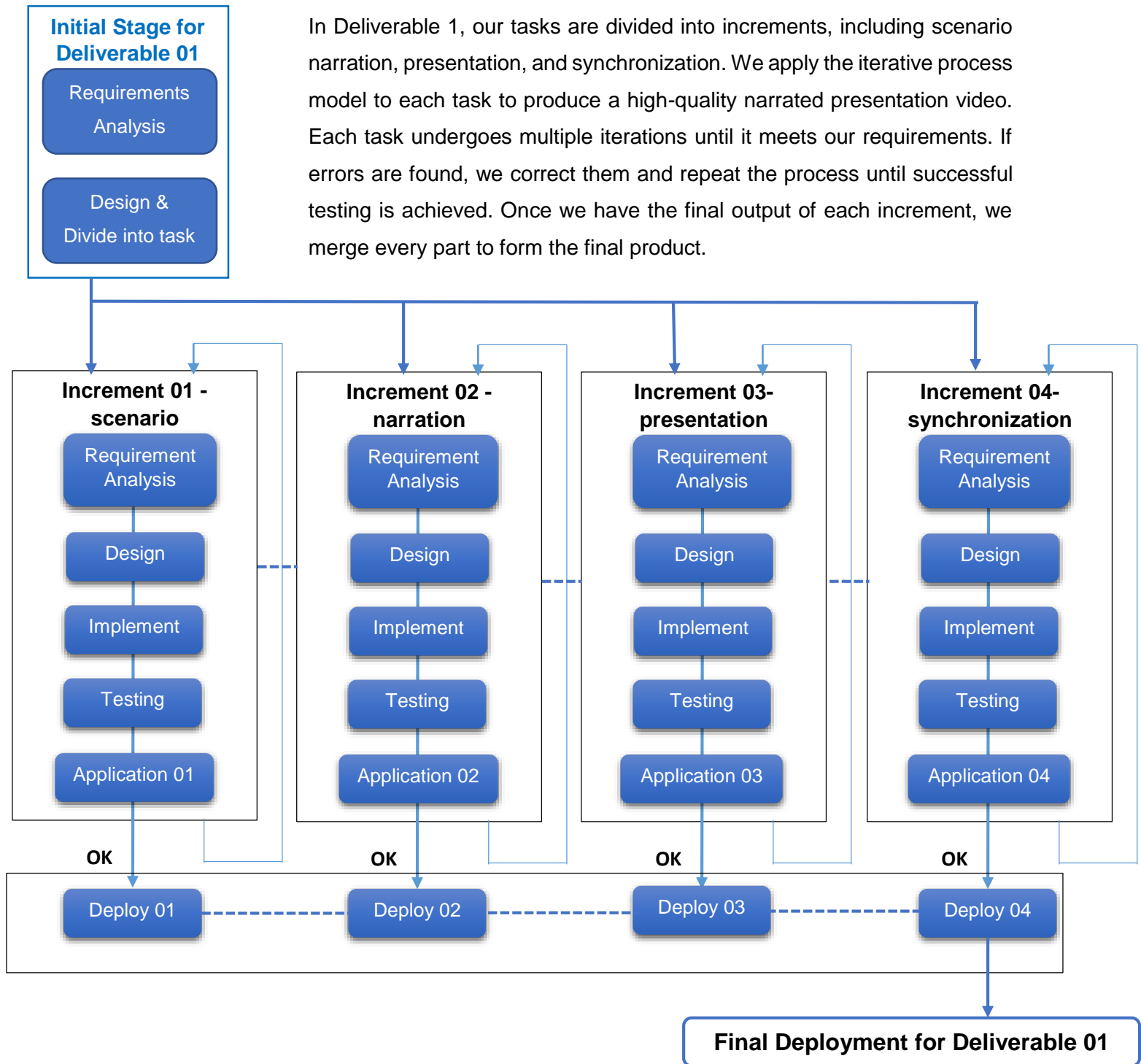


Figure 12 Process Model for Deliverable 01

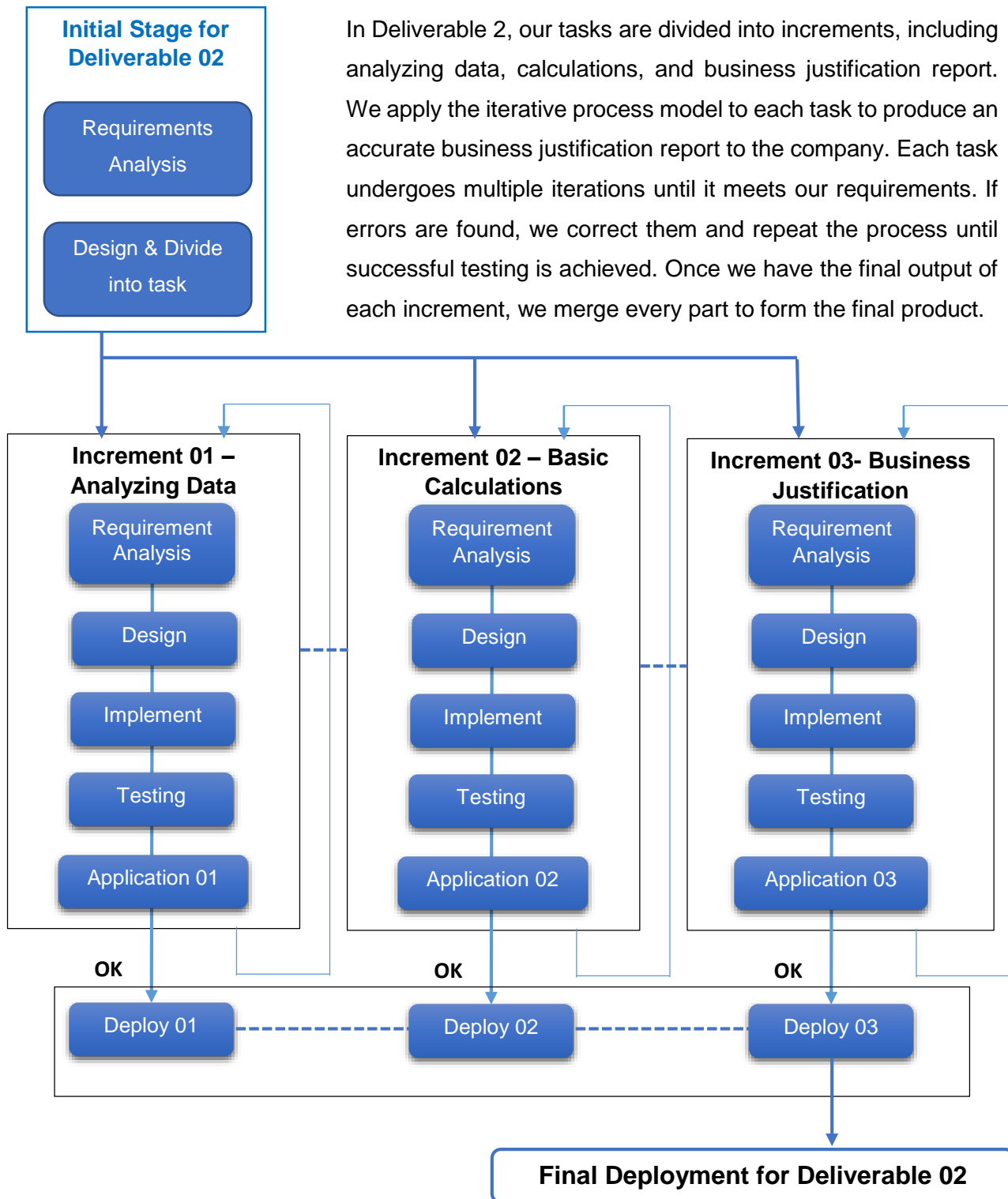
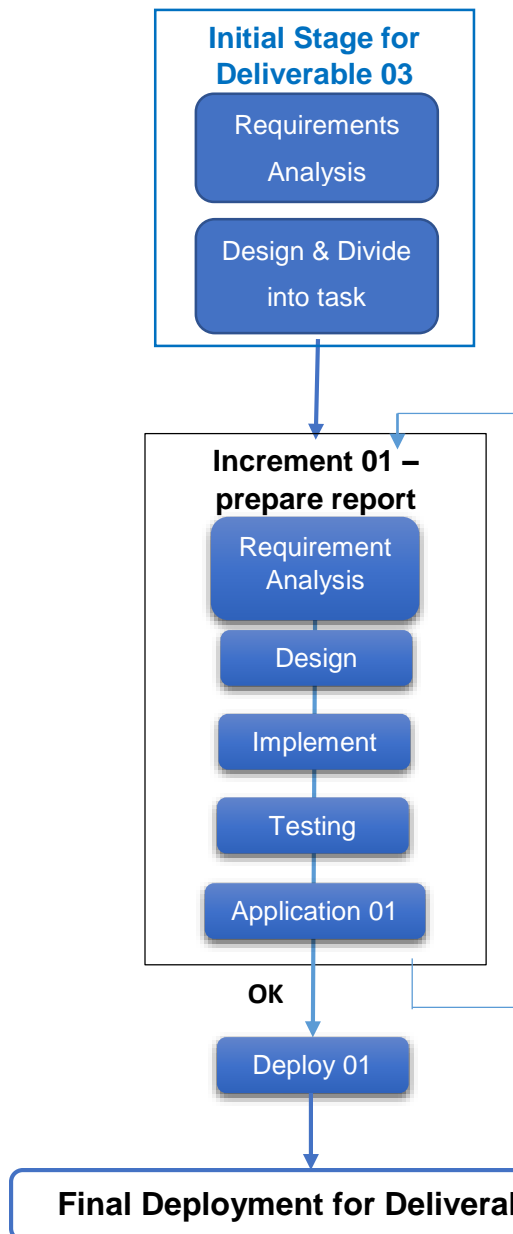


Figure 13 Process Model for Deliverable 02



In Deliverable 3, Iterative process model is applied to produce an accurate Joint Reflective Review Report, which is what is learned through this coursework. This task undergoes multiple iterations until our requirements are met. If errors are found, they are corrected, and the process is repeated until successful testing is achieved. Once the final output of this increment is obtained, it becomes the final product.

Figure 14 Process Model for Deliverable 03

In Deliverable 4, our tasks are divided into increments, including scope management, time management, risk management, quality management, and resource management, Cost management, Communication management and finally finalize the report. We apply the iterative process model to each task to produce a high-quality report. Each task undergoes multiple iterations until it meets our requirements. If errors are found, we correct them and repeat the process until successful testing is achieved. Once we have the final output of each increment, we merge every part to form the final product.

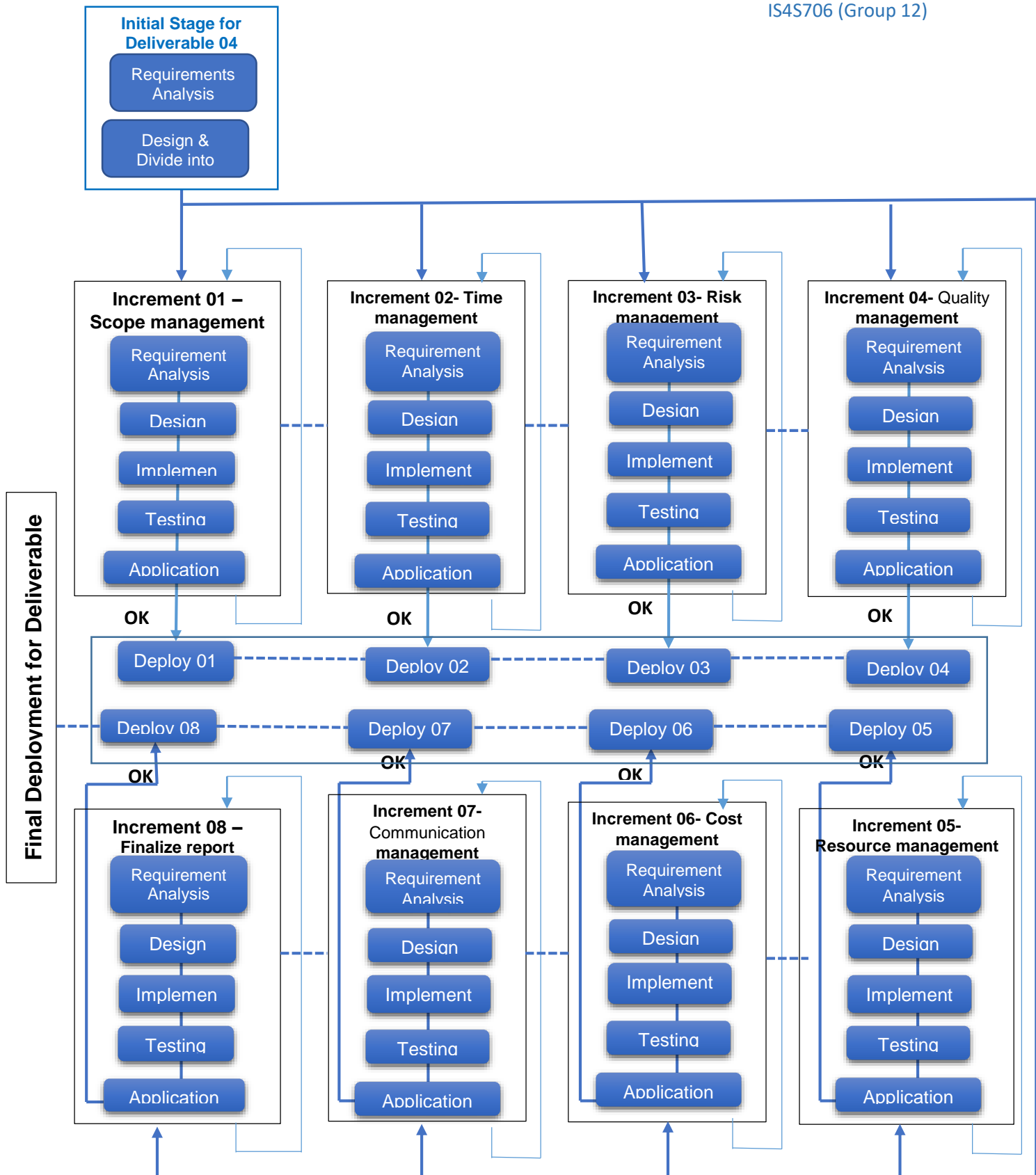


Figure 15 Process Model for Deliverable 04

6. PROJECT MONITORING AND CONTROL

6.1 Requirements Control

Each group member must attend all meetings. Additionally, they are obligated to document their code, adhere to the guidelines outlined in the WBS, and meet all deadlines. Any unforeseen issues, technical challenges will be evaluated by the Managing team and resolved accordingly.

6.2 Scope Control

Scope control processes are implemented to monitor project scope and manage changes effectively. And avoid scope creep. The project is already well defined; therefore, changes to the project cannot occur. However, the following processes are integral to scope control.

Scope Verification: This process involves formal acceptance of project deliverables by stakeholders. It ensures that the work meets the specified requirements and is completed satisfactorily.

Scope Change Control: Any proposed changes to project scope are evaluated, approved, or rejected through this process. It involves assessing the impact of scope changes on project objectives, schedule, budget, and resources.

Scope Performance Monitoring: Regular monitoring of project scope ensures that work is progressing as planned and deviations are identified early.

6.3 Schedule Control

In addition to the scheduled all meetings, the team may need to convene outside of class to ensure timely completion and delivery of the product. Managers will oversee task completion to ensure everyone meets deadlines. The managing team will closely monitor project progress and ensure everything is completed on time. The Project Manager will maintain regular communication to stay informed about the project's progress.

6.4 Budget Control

The team has not been allocated a specific budget. Nonetheless, we are committed to ensuring the project's efficiency to prevent any strain on resources.

6.5 Quality Control

To produce quality Product project teams will conduct weekly quality checks on the project to ensure it meets all expectations. Quality issues are identified, solutions are implemented, performance levels are regularly measured, and recommendations for necessary changes are generated to ensure that the quality requirements are met. Techniques such as reviewing the products, learning lessons, and improving processes are followed as a result.

6.6 Metrics Collection

The managing team will ensure that every developer completes their tasks weekly to maintain the project's progress as expected. They will also oversee the efficiency of the project, ensuring it meets all required standards.

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