INTERNATIONAL SCHOOL OF MANAGEMENT AND TECHNOLOGY

KATHMANDU, NEPAL

Qualification		**Unit Number & Title**	
BTEC HND IN COMPUTING		T/615/1625 – Unit 6: Managing a Successful Computing Project	
Student Name		**Assessor Name**	
Sparsh Shrestha		Prafulla Rijal	
Assignment Launch Date	**Due Date**		**Completion Date**
03 November 2022	31 December 2022		
Session/Year	**2021/2022**	**Assignment Number**	**1/1**
Assignment Title	Managing a Successful Computing Project - Remote Working		

Assignment submission format
Each student has to submit their assignment as guided in the assignment brief. The students are guided what sort of information is to produce to meet the criteria targeted. You are required to make use of headings, paragraphs and subsections as appropriate, and all work must be supported with research and reference.

Important:

- **Read the plagiarism notice and requirements at Page 8**
- **Word-limit- 8000 words** *(excludes cover page, table of content, figures, graphs, reference list, appendix and logbook)*
- **Accepted Sources: Research Papers** *(Journal Articles, Conference Proceedings, Thesis), Text Books, Governmental Data, Websites (only a registered organization, an educational institution, government agency)*
- **Information taken from unreliable sources will not be accepted**
- **Must follow Harvard Reference Style**

Learning outcomes covered
• LO1 Establish project aims, objectives and timeframes based on the chosen theme. • LO2 Conduct small-scale research, information gathering and data collection to generate knowledge to support the project. • LO3 Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis. • LO4 Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance.

The course tutor will
• Ensure that the project topic is relevant to the project theme provided in the assignment brief • Ensure that the topic and type of project chosen by the student is appropriate for small-scale research and the student can complete it within the given time frame • Ask the Programme Leader to verify the project topic as part of the internal verification process. • Include in his teaching plan how the student should go about planning, researching, conducting, recording and reflecting on the project. • Encourage students to keep notes of their progress in a logbook, as this is a mandatory requirement for this unit. • Ask Students to reflect on the success of their project and their own performance in a personal performance review at the end of the project. This is a written reflection of 500 words. (The teacher may provide an appropriate structure of the reflection review.)

Scenario

The option to work remotely was already being embraced by some businesses in the pre-pandemic era. These businesses were making some progress to adapt their working practices to accommodate remote working by allowing those in certain job roles to take the opportunity to work from home, albeit a day or two a week. However, on the whole there had been a reluctance to have staff working remotely and this has largely centred around productivity concerns, security implications and technology issues.

The global pandemic however necessitated and accelerated the move to remote working. The vast majority of businesses have now shifted some or all of their operations online, and almost all of their staff are working from home. The enabling force behind this necessary shift has been the different technologies and platforms that facilitate workers to achieve business goals remotely. This sudden shift to remote working took place within weeks and months and has not been without issues. Several surveys conducted during this period cited business leaders complaining about how technology problems have impacted their business and employees while working remotely.

Assume that you are working as an IT Consultant for an organisation. Your project leader has asked you to conduct **a small-scale research** on Remote Working focusing on question provided:

"How can employee 'visibility' be supported by implementing tools that can automatically monitor employees' at-home use of networks and applications and send early warning signals or reports of problems? Such technology gives detailed insight into what issues remote workers encounter when they interact with enterprise systems".

You can choose a topic of your choice for your research based on the theme given above.

The research project you have carried out will demonstrate that you can

- Establish project aims, objectives and timeframes based on the given topic/theme.

- Conduct small-scale research, information gathering and data collection
- Present the project as demanded by the assignment brief
- Reflect on the success of their project and their own performance in a personal performance review at the end of the project.

Your research report will:

Step 1. Aim and Objectives

- Establish your **aims** and **objectives** for the project. Outline objectives and timeframes based on the scenario.

Step 2. Project Planning

- Devise a **Project Management Plan** to map out how you intend to meet the project objectives:
  - Begin with the **scope**. What activities and tasks as defined in your project must be done in order to make the project a success?
  - Note the **milestones** or major events or phases in your project.
  - Provide details of activities to be carried out **initiation, planning and execution** of the project.
  - Create a **Work Breakdown Structure** using a Gantt chart to track the activities to be undertaken.

Step 3. Research (Primary and Secondary)

- Conduct a research to generate knowledge which will form the basis for analysis of the scenario posed in the brief.

Step 4. Present Findings

- **Collate** your research, **analyse** your findings and draw conclusions to form the basis for **recommendations**.
- Present the **report** in written format and also prepare a **presentation** that includes research **process** and **outcomes** to the audience who has little or no knowledge on the research process.
- Write **recommendations** based on the research findings and outcomes.

Note: Follow the guidelines below to design your presentation.

- Font style Arial or Times New Roman.
- Font size: Main text should be minimum font size 16 -24 (readable from 2 meters away). Headings 30-42. Sub-headings can be smaller. Avoid writing all in capital letters and use same font throughout the presentation(Margins, fonts, font size, and colors should be consistent)
- Use same background on each slide. Label images and graphs. Use bulleted points and avoid writing long sentences. And provide citations and references

Step 5. Project Reflection

- Write a **reflective writing** focusing on personal development and research journey in a critical and objective way.

Guidance for Students

You should read this information before starting on your project. You should refer to these instructions as you complete work for this unit.

- Read the brief and think about what the project brief is asking.
- Research what the project brief is asking. How can you approach the problem, opportunity, hypothesis and requirements being posed?
- Apply a range of secondary research sources to plan/scope and support the project and its findings. Secondary research sources may include textbooks, journal articles, newspapers and magazine articles (not factual accounts).
- Develop your project plan based on the deliverables of the project, the constraints of the project and the assumptions made.
- Conduct your project according to your stated project plan and meet with your tutor to receive a sign-off at each stage of the project process.
- Primary research sources may include original first-hand accounts, legal and historical documents, results of experiments and market research data collection. Apply both qualitative and quantitative research methods to evaluate data collected from primary research.

- Keep notes of your progress throughout the project in your logbook using the format given below:

  The logbook should include:

  - A record of what you did, when and what you were thinking.
  - A record of where things went wrong and what you did to overcome any unexpected results.
- You must complete the project in order to complete your work for this unit.

Appendix I

Templates for Evidence Collection (you can use the below provided templates to prepare a logbook)

The logbook template and performance review questions are examples of what can be used; tutors can devise or use other appropriate resources if they wish to do so.

Name:

Project title:

Date:

1. **Update on weekly research/tasks achieved**
   - **Points to consider:**
   - What have you completed?
   - Did you fulfill task requirements?
   - Are you on track and within deadlines set?
   - Did you need to make any changes to your project management plan?

2. **Any risks and/or issues identified?**
   - **Points to consider:**
   - Did you identify risks/issues with a lack of skills required for undertaking research/tasks?
   - Did you identify any additional risks/issues that have an impact on the project management plan?

3. **Problems encountered**
    - **Points to consider:**
    - What barriers did you face?
    - How did you overcome them?

What have I learnt about myself this week? Points to consider:

- How did I feel when I had to deal with tasks/problems?
- Did I find it useful to complete the tasks?
- How well have I performed? What did I contribute?
- What can I improve on next week?
- How might this learning apply in the future?

Tasks planned for next week

Points to consider:

- Which tasks are priorities?
- Have you set aside sufficient time for completion?
- **Project plan status to date (on, ahead, behind)**
- **Supervise comments to address**

Appendix II [You write when the project is completed]

Performance Review

- What was the project supposed to accomplish?
- Did the project succeed in its aims? How do you know? Specifically, outline any evaluation and assessment undertaken.
- What things do you think worked well and why? Evaluate all aspects of the project (e.g. initial inception, project activities and project outcomes) from a range of perspectives.
- What problems emerged during the project and how were they tackled? Was there timely identification of issues and resolution during the project process?
- What did you learn from undertaking the project?
- How would you rate your performance as project manager?
- What strengths and weaknesses of your performance did you identify?
- How will this inform and support your continuous professional development?

Essential Task

You have to produce a podcast on a topic related to the assignment or this unit and submit it to the assignment department. The class teacher approves the topic for each student. Unless you submit a podcast, this unit is considered as incomplete.

Learning Outcomes and Assessment Criteria

Pass	Merit	Distinction
LO1: Establish project aims, objectives and timeframes based on the chosen theme		
P1 Devise project aims and objectives for a chosen scenario.	**M1** Produce a comprehensive project management plan, milestone schedule and project schedule for monitoring and	

P2 Produce a project management plan that covers aspects of cost, scope, time, quality, communication, risk and resources. **P3** Produce a work breakdown structure and a Gantt Chart to provide timeframes and stages for completion.	completing the aims and objectives of the project.	**LO1** and **LO2** **D1** Critically evaluate the project management process and appropriate research methodologies applied.
LO2: Conduct small-scale research, information gathering and data collection to generate knowledge to support the project		
P4 Carry out small-scale research by applying qualitative and quantitative research methods appropriate for meeting project aims and objectives.	**M2** Evaluate the accuracy and reliability of different research methods applied.	
LO3: Present the project and communicate appropriate recommendations based on meaningful conclusions drawn from the evidence findings and/or analysis		
P5 Analyse research and data using appropriate tools and techniques. **P6** Communicate appropriate recommendations as a result of research and data analysis to draw valid and meaningful conclusions.	**M3** Evaluate the selection of appropriate tools and techniques for accuracy and authenticity to support and justify recommendations.	**LO3** **D2** Critically evaluate the design and development process against your design document and analyze any technical challenges.
LO4 Reflect on the value gained from conducting the project and its usefulness to support sustainable organisational performance		

P7 Reflect on the value of undertaking the research to meet stated objectives and own learning and performance	**M4** Evaluate the value of the project management process and use of quality research to meet stated objectives and support own learning and performance.	**LO4** **D3** Critically evaluate how the project supports sustainable organisational performance.

Grades Achieved

Note: Refer the unit details provided in your handbook when responding all the tasks above. Make sure that you have understood and developed your response that matches the highlighted key words in each task.

Plagiarism Notice

You are reminded that there exists **Academic Misconduct Policy and Regulation** concerning **Cheating and Plagiarism**.

Extracts from the Policy:

Section 3.4.1: Allowing others to do assignments / copying others assignment is an offence

Section 3.4.2: Plagiarism, using the views, opinion or insights / paraphrasing of another person's original phraseology without acknowledgement

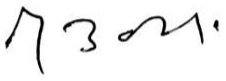
Requirements

- It should be the student's own work – **Plagiarism is unacceptable**.
- Clarity of expression and structure are important features.
- Your work should be submitted as a **well presented**, word-processed document with headers and footers, and headings and subheadings.

- You are expected to undertake research on this subject using books from the Library, and resources available on the Internet.
- Any sources of information should be **listed as references** at the end of your document and these sources should be referenced within the text of your document using **Harvard Referencing Style** ***(Each 1000 words should have minimum 20 references)***
- Your report should be illustrated with screen-prints, images, tables, charts and/or graphics.
- All assignments must be typed in **Times New Roman or Arial**, **font size** 12, $1^{1/2}$ **spacing**.

The center policy is that you must submit your work within due date to achieve "Merit" and "Distinction". Late submission automatically eliminates your chance of achieving "Merit and Distinction". Also, 80% attendance is required to validate this assignment.

I declare that all the work submitted for this assignment is my own work and I understand that if any part of the work submitted for this assignment is found to be plagiarized, none of the work submitted will be allowed to count towards the assessment of the assignment.

Assignment Prepared By	**Signature**	**Date**
Umesh Kisor Baral	**Umesh**	30 October 2022
Brief Checked By	**Signature**	**Date**
Dhruba Babu Joshi		02 November 2022

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Executive Summary

First thing, I am here to explaining my aims and objectives for the project and outline and outline objectives and time frame based on my project. This project is made for many gamers who play lots of games. The name of my project is game development. That can include lots of things like timeframes, project management plan, meeting objectives, research etc.

Project aims and objectives

Project Title

The title of my project will be Game Development.

Project aim

The goal of game creation is to make a game that players will love and find intriguing. Creating complex yet approachable gameplay mechanisms, an engaging and visually appealing game world, and ensuring that the game runs smoothly and is bug-free are typical components of this. Along with these technical requirements, game designers frequently strive to make games with interesting plots, recognizable characters, and a distinctive setting or theme. The ultimate goal of game creation is to make a game that players will want to play and keep playing for a long time.

Concept of Game Development in Market

First things I want to tell about what is game development. The process of making a video game is called game development. It includes producing and implementing artwork and audio assets, designing and programming the game mechanics, and testing the finished product to make sure it runs smoothly and is pleasant to play. A team of developers with a variety of abilities is frequently needed to complete a game's development because it can be a challenging and lengthy process. Games are developed using a wide range of tools and technology, such as game engines, computer languages, and graphics and audio applications. On one or more platforms, such as PC, console, or mobile devices, the finished project is typically made available.

The way I create the game will be very simple. Game will be both online and offline. If there any kind of internet problems people can play offline/story mode. I am focusing this game in online. Because in modern days people use to kill their time by playing games with their friends. Many youths are addicted to playing video games. So, I get idea form this. Now I will talk about the

game that I will be developing. First thing, game will be very simple as I already told in the beginning. The graphic of the game will be very realistic. People should feel that people are actually inside the game. As I already told that I will be focusing this game on online only. On online, there will be many kinds of mission like easy level mission, medium level mission, and the hard level mission in other word we can call heist. I will be adding creating character features, where people can create their own character by themselves whether they are boy or girl or man or women. Update on game will be come ever 2 moths with new features. The update size will be not too big like other online games.

Let's talk about the concept of the game development. The goal of game development is to produce and promote video games that will be commercially successful and have a broad appeal. This usually entails determining consumer patterns and market trends, then developing games that satisfy those needs. A distinctive and inventive game that stands out from the crowd and draws a devoted fan following may be another goal of game maker.

Game makers must consider the numerous platforms on which their games will be distributed in order to succeed in the market. This entails picking the appropriate platform or platforms for the game, optimizing the game for those platforms, and effectively promoting the game to the appropriate audience.

The marketability of games is frequently influenced by a number of variables, including game quality, target audience size, and marketing strategy efficacy. Game production is a competitive industry.

Objects of the game development

The basic goal of game creation is to make a game that players will enjoy and find compelling. Creating complex yet approachable gameplay mechanisms, an engaging and visually appealing game world, and ensuring that the game runs smoothly and is bug-free are typical components of this.

The goals for their game may go beyond these technical considerations, according to game developers. For instance, they might try to make a game with an intriguing plot, recognizable

characters, and a distinctive setting or subject. Additionally, they could want to make a game that is commercially successful and has broad appeal.

The ultimate goal of game creation is to produce a game that players will want to play and will keep playing for a long time. Technical prowess and innovative design can be combined to accomplish this.

Game development in our Country Nepal

As Nepal is still on development. There are many things to develop in our country. Nepal is far from the technology. Technology is not using properly in our country. So, I have idea to create the Game development in my own country. In context of Nepal there are very few game developers due to lack of budget also and due to corruption because to create a simple game we need to spend lots of money. If it is not possible in Nepal I will go to foreign country and develop the game. There are very little company who develop the game in our country. So, I want to create the game development in my own country.

I have researched about the game development. What we need for the development of the game. The list of companies is:

Project management plan

Under project management plan there will be several things the things are I will be discussing below:

Project scope

Project scope is the part of project planning that involves determining and documenting a list of specific project goals, deliverables, tasks, costs and deadlines (Lutkevich, 2021). A scope statement or terms of reference is a document that details the parameters of a project. It defines the project's parameters, assigns roles to each team member, and creates the protocols for validating and approving finished work.

This documentation assists the project team in staying concentrated and on task throughout the project. The team can use the scope statement as a reference for deciding whether to accept or reject modification requests throughout the project. It should be noted that a project's scope

statement should not be confused with its charter, which merely certifies the existence of the initiative.

The creation of a particular game is referred to as a project in the gaming industry. In most cases, a group of developers collaborates to plan, develop, and produce all of the game's assets and content. The team working on a game development project often has a set of goals and objectives in mind, as well as a schedule for completing the various activities and milestones necessary to finish the game.

Some of the common elements of a game development project includes:

- Game design: This include developing the overall idea and vision for the game, as well as the plot, characters, settings, and gameplay mechanics.
- Programming: This entails creating the code that drives the game's mechanics and regulates its behavior.
- Art and audio: This entail making all of the game's necessary audiovisual assets, such as character models, environments, and sound effects.
- Testing: This include playing the game to find any bugs or problems and resolving them.
- Marketing and promoting: This entails attracting new players to the game and spreading the news about its availability.

Depending on the particular requirements of the game and the abilities and knowledge of the development team, a game development project may also contain various duties and obligations.

Requirement Analysis

Requirements analysis, also called requirements engineering, is the process of determining user expectations for a new or modified product. These features, called requirements, must be quantifiable, relevant and detailed. In software engineering, such requirements are often called functional specifications. Requirements analysis is an important aspect of project management (Contributor, 2007).

The process of acquiring and recording the requirements for a system, product, or service is known as requirement analysis. Requirement analysis in the context of game development entails locating and cataloging the game's functional and non-functional requirements. This usually entails

working with the game design team to comprehend the gaming mechanics, plot, characters, and setting, as well as the technical specifications for the game, such as the necessary hardware and software, performance standards, and platform compatibility.

A clear and thorough grasp of what the game should do and how it should work is the end goal of requirement analysis. This makes it possible for the game development team to work with a clear vision and to concentrate on producing a product that satisfies the required standards. Since the requirements for the game may change as it is being built, requirement analysis is often an iterative process.

Estimated cost and resources

It is challenging to give a precise estimate of the price and resources needed to build a game that I am going to develop because it would rely on several variables, including the game's scope and scale, the size and experience of the production team, and the tools and technologies being employed.

That being said, it is likely that a sizable time and resource commitment would be needed to produce a game that I am going to create. This would cover not only the cost of the wages of the development team, but also the price of any necessary equipment, resources, and assets, as well as marketing and advertising expenditures.

A team of seasoned developers with a variety of talents and expertise, including game designers, programmers, artists, and audio professionals, is often needed to create a high-quality, game like Call of Duty, GTA and other games and also the game that I am going to create. Additionally, it would necessitate the utilization of strong technology and development tools, such as gaming engines and specialized software.

Estimated budget for this project

As I already told in previous that it is hard to tell, how much money it will take to develop the game. It depends on the games. But I created the demo which is listed below:

Sources of resources	Name of resources	Quality of resources	Total estimated

Programmer	High level programmer, full stack developer	More than 10	Rs. $1,000,000
Manufacturing and testing	-	-	Rs. $50,000
Designer	Graphic designer. Fashion designer for clothes, artist designer.	More than 10	Rs. $50,000
Sound editor	Sound expert	More than 10	Rs. $100,000
Marketing and implementing	-	-	Rs. $60,000
Total			Rs. $1,260,000

Project Duration

Project duration refers to the length of time a specific project will take to complete based on the work effort and work quantity. Project duration estimation is highly important for project managers who need to calculate when their teams can finish the tasks, what resources they need, and how much time they have left before reaching the scheduled completion date (Linman, 2010). The size and complexity of the game, the skill level of the development team, and the team's access to resources are just a few of the variables that might affect how long a project takes to complete.

While a larger, more sophisticated game created by a larger team might take several years to complete, a smaller, simpler game created by a smaller team might be finished in a few months.

In general, it is challenging to determine the precise length of a game development project due to the numerous factors that can affect the timetable. However, the majority of game development initiatives will adhere to a standard schedule that features the following phases:

- Pre-production: This stage entails the preliminary planning and concept creation for the game, including the creation of the plot, characters, settings, and gameplay mechanics.
- Production: This stage entails the construction of the game's code, art, and audio, as well as testing.

- Post-production: Finalizing the game and getting it ready for release during this phase includes debugging, polishing, and marketing.

Depending on the particular requirements of the game and the resources at the disposal of the development team, the length of each of these phases can vary considerably.

Quality

In game production, quality is a crucial factor because it has a big impact on the player's overall happiness and enjoyment. In general, high-quality games are more popular and last longer than low-quality ones.

The following are only a few of the many elements that affect a game's overall quality:

Game Mechanics

The gameplay mechanics should be engaging and demanding, but not overly so.

Graphics and Visuals

The designs and aesthetics ought to be eye-catching and engaging.

Audio

The game's mood should be enhanced by the audio, which should be of good quality.

Story and Characters

The story and the characters must be interesting and intriguing.

Performance

The game should be run smoothly with any lag and bug. And should be free from other issues.

Quality Planning

In order to ensure that these requirements are met throughout the development process, quality planning in game development include setting the quality standards and goals for the game and implementing processes and procedures. This usually entails outlining the roles and duties of the development team in order to meet a clear set of quality criteria for the game.

Some common elements of quality planning in game development are given below:

- **Defining the target audience of the game:** Determining the player preferences and demographics for whom the game is designed.
- **Identifying quality standards:** Determining the precise quality requirements that the game should achieve, such as those for gameplay mechanics, performance, visuals, and music.
- **Setting quality goals:** Specifying precise, quantifiable objectives for the level of play.
- **Establishing testing and debugging process:** Developing a plan for testing and debugging the game to make sure it satisfies the desired quality requirements. Establishing testing and debugging techniques.
- **Defining roles and responsibilities:** Giving distinct members of the development team unique tasks and obligations connected to quality assurance.

Overall, quality planning is a crucial step in the game development process since it ensures that the final product will satisfy gamers and achieve the specified quality standards.

Control Quality

Quality control (QC) is a procedure or set of procedures intended to ensure that a manufactured product or performed service adheres to a defined set of quality criteria or meets the requirements of the client or customer. QC is similar to, but not identical with, quality assurance (QA). While QA refers to the confirmation that specified requirements have been met by a product or service, QC refers to the actual inspection of these elements (Contributor, 2019).

When a game is being developed, the term "control quality" refers to the process of making sure that the controls work as intended and give the player a seamless and engaging experience. This entails checking the responsiveness and accuracy of the controls and making any necessary modifications or repairs to enhance their functionality.

As a crucial component of the player's interaction with the game, controllers play a significant role in game creation. A game's unpleasant and challenging controls might have a detrimental effect on how much the user enjoys it. The player's experience can be improved and the game can become more immersive and engaging with properly designed and responsive controls.

Play testers or QA (quality assurance) testers who play the game and offer input on the controls are often responsible for testing and evaluating control quality. Before the game is released, any necessary adjustments are made using this feedback.

Quality Assurance

The process of confirming that a good, service, or system satisfies standards and is appropriate for its intended use is known as quality assurance (QA). QA, when used in relation to game development, describes the procedure of testing and assessing the game to make sure it satisfies the necessary quality standards and is prepared for release.

QA in game development involves a variety of activities, which are listed below:

- Checking the game for bugs and other technical problems to make sure it works as planned.
- Assessing the game's gameplay and controls to make sure they're simple to understand and give the player a satisfying experience.
- Checking that the game's visuals, audio, and other visual and aural components are of a high caliber and adhere to the necessary standards.
- Ensuring that the game's conversation and content are suitable, accurate, and up to code standards.

To ensure that the game is of high quality and prepared for release, QA is a crucial step in the game development process. Play testers, sometimes referred to as quality assurance testers (QA), play the game and offer input on its quality, which is then utilized to make any necessary adjustments before to the game's release.

Risk in Game Development

I think many people think there is no risk in game development, right? But there is risk. The risk is listed below.

Technical Risk

Working with sophisticated software and technology, which can include flaws and other technical challenges, is a requirement for game creation. These technical difficulties may result in delays and raise the price of development.

Schedule Risks

The timelines and deadlines for game production are frequently constrained, and delays can be expensive. The likelihood that the game won't be finished in time poses a risk to its release date and financial viability.

Quality Risks

There is a chance that the game won't satisfy the necessary quality requirements or won't be properly welcomed by gamers. The developer's reputation and the game's financial performance may be impacted by this.

Budget Risks

The cost of game production can be high, and there is a chance that it will cost more than expected. This may have an effect on the game's profitability and the developer's bottom line.

Market Risks

There is a chance that the game won't be well received by its intended audience or won't appeal to a big enough market to be profitable.

Legal Risks

Various legal difficulties, including agreements with partners and conflicts over intellectual property, can arise during the development of video games. These legal concerns may result in delays and raise costs.

Managing these risks is a crucial component of game development and can help to guarantee the project's success.

Project Management

The process of arranging and managing a game's development from conception to release is referred to as project management in the game development industry. Assigning duties and responsibilities, developing a project plan, establishing project goals and objectives, and monitoring progress are all part of this.

Various tasks are included in project management when creating games, such as:

Defining the scope of the project

This entails deciding on the features and content that will be present in the game, as well as its aims and objectives.

Creating project plan

In order to do this, the project must be divided into smaller jobs, each of which must have a deadline.

Assigning tasks and responsibilities

To do this, duties must be assigned to team members, and it is important to make sure that everyone is aware of their obligations.

Tracking progress

This entails keeping an eye on the project's development and making sure that it is on track to stick to the allocated timetable and spending limit.

Manage risk

This entails identifying and reducing risks that could have an effect on the project, like technical difficulties or cost overruns.

Work Structure

Work structure is the division and arrangement of tasks within a team or organization. It covers the hierarchy and chain of command, the job descriptions for team members, and the procedures and systems in place to support the task.

Depending on the size of the development team and the nature of the project, the work structure for game development can change. Typical work arrangements utilized in the creation of video games include:

- Hierarchical structure
- Flat structure
- Matrix structure
- Team structure

The ideal organizational structure for a game development team will vary depending on the team's size, the project's complexity, and the company's culture and beliefs. An efficient work organization may ensure that tasks are efficiently structured and that team members are aware of their respective duties.

Gantt chart

A Gantt chart is a form of bar chart that is utilized to display a project's schedule. It bears the name Henry Gantt after the American engineer and management consultant who created the chart to show a project's progress.

A Gantt chart can be used to depict the development process timeline for games, including tasks, deadlines, and milestones. Tasks like "Design game concept," "Create game assets," and "Test and debug game," for instance, might be listed on a Gantt chart for a game development project. On the chart, each task would be represented by a horizontal bar, with the length of the bar denoting the task's time and the bar's placement denoting the task's start and end dates. On the chart, each task would be represented by a horizontal bar, with the length of the bar denoting the task's time and the bar's placement denoting the task's start and end dates.

Conclusion

In this task we have discuss, the estimated time, how much cost the game will be. We also discussed about the quality of game how the game will be and how much it will take time to develop a game. And also, we made work structure of the game development and gnat chart also.

Introduction

In this part I am going describe how small-scale research by applying qualitative and quantitative research methods appropriate for the meeting project aims and object for the game development. This thing I will be explaining in this part.

Evaluation of appropriate research methodologies

Research is typically the initial stage in preparing any report, including dissertations and theses. Your choice of research methods can have an impact on the final product and overall quality of your report. Therefore, doing thorough initial investigation is essential.

Qualitative Research

Qualitative research involves collecting and analyzing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences. It can be used to gather in-depth insights into a problem or generate new ideas for research (Bhandari, 2020).

In order to comprehend and interpret the experiences, viewpoints, and meanings of game players, qualitative research in game development relies on gathering and evaluating non-numerical data, such as words, photos, and videos. The subjective and contextual elements of game design and player experience, such as how players feel about a game, what they like and dislike about it, and how they interact with it, are frequently explored in this kind of research.

Focus groups, interviews, observations, and content analysis are a few examples of qualitative research methodologies that can be employed in the creation of video games. The creation and development of games that are more engaging, meaningful, and pleasant for players can be influenced by these techniques, which can assist researchers in gaining insights into the players' motives, preferences, and behaviors.

At many stages of the game production process, from early concept development to playtesting and post-launch review, qualitative research can be done. It can be used to collect player input,

determine user wants and preferences, and comprehend how users interact with games in various settings.

Quantitative Research

Quantitative research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations (Bhandari, 2020). In order to recognize and explain patterns and trends in player behavior and game design, quantitative research in the gaming industry entails gathering and analyzing numerical data. When making predictions regarding the efficiency of game design features and player engagement, this kind of study is frequently used to test hypotheses, track results, and assess outcomes.

Surveys, trials, and data analysis are just a few examples of the quantitative research approaches that can be utilized in game development. These techniques can be used to test hypotheses on the effects of various design aspects on player behavior and engagement and to assist researchers in collecting huge volumes of data from players in order to spot patterns and trends.

At many stages of the game production process, from early concept development to playtesting and post-launch review, quantitative research can be done. It can be used to compile player data, evaluate the efficiency of game design components, and make defensible choices on game design and player involvement.

Questionnaire

A questionnaire is a list of questions or items used to gather data from respondents about their attitudes, experiences, or opinions. Questionnaires can be used to collect quantitative and/or qualitative information (Bhandari, 2021). In game development, a questionnaire is a research tool made up of a number of questions or prompts that are used to learn more about the experiences, viewpoints, and actions of players. Both qualitative and quantitative research can benefit from the use of questionnaires, which can be distributed in a variety of methods, such as online, in person, or through self-administered paper or electronic forms.

Depending on the goals of the study and its particular focus, there are a wide range of question types that can be included in a questionnaire for game creation. A game development questionnaire could contain a variety of typical question kinds, such as:

Demographic question

These inquiries collect data on the respondent's age, gender, level of education, and other demographic traits that may be pertinent to the study.

Likert scale question

On a scale, such as from "strongly disagree" to "strongly agree," the respondent is asked to rate how much they agree or disagree with a statement.

Open-end question

Instead than choosing from a predetermined list of answers, these questions let the respondent give a free-form response.

Multiple choice question

Instead than choosing from a predetermined list of answers, these questions let the respondent give a free-form response.

The specifics of a game development questionnaire will be determined by the study's topic and research goals. In order to make sure that the questionnaire is efficient and instructive, it is crucial to thoroughly analyze the questions being asked and how they will be used in the analysis.

Interviews

In research studies, particularly those on game creation, interviews are a typical technique for acquiring qualitative data. A conversation between two or more persons is referred to as an interview when the interviewer asks questions and the interviewee responds. There are many other ways to conduct interviews, including in-person, over the phone, online, through video conferencing, or through other digital platforms.

Interviews are a valuable method for learning in-depth details about participants' experiences, beliefs, and actions. They can be unstructured, with more open-ended questions that encourage the interviewee to express their thoughts and feelings more freely, or organized, with a preset set of questions that are asked in a precise order.

Players' opinions about games, including what they like and dislike about them, how they interact with them, and how they feel about various game elements and features, can be gathered through interviews in game development. Interviews can be used at several stages of the game development process, from idea development to playtesting and post-launch evaluation, and they can be conducted with a small group of players or with a larger sample.

Depending on the study's aims and particular focus, a variety of interview formats can be employed in game development. Typical interview formats include:

Structured Interviews

These interrogations adhere to a preset set of inquiries that are posed in a particular sequence. Structured interviews can be used to test hypotheses or assess particular outcomes since they allow for the systematic and standardized collection of data.

Unstructured Interviews

These interviews are less scripted and more free-form with more open-ended inquiries. Unstructured interviews provide the interviewee more freedom to express their thoughts and feelings and are effective for learning in-depth details about players' opinions and experiences.

Semi-Structured Interview

These interviews include a mix of preset questions and more open-ended queries that fall somewhere between organized and unstructured. Semi-structured interviews can help in data collection by allowing for consistency and flexibility.

Group Interviews

These interviews involve multiple subjects being questioned concurrently, frequently in a focus group format. Group interviews can be helpful for collecting information from more participants, examining group dynamics, and uncovering social influences on game performance.

One-one-one Interviews

These interviews can be performed in-person, over the phone, or online and only include one interviewer and one interviewee. Individual player interviews can be helpful for getting comprehensive, in-depth information about their thoughts and experiences.

The particular interview format utilized in game development will rely on the study's goals and main topic. In order to select the best interview style, it is crucial to thoroughly analyze the objectives of the study and the kind of data being sought.

Conclusion

In this part I have discussed not much more, just few things like qualitative research, quantitate research. And also, I also had discussed about interview and its types or what kind of interview will be in game development. At last I also have discussed Questionnaire; what kind of question will be there.

Introduction

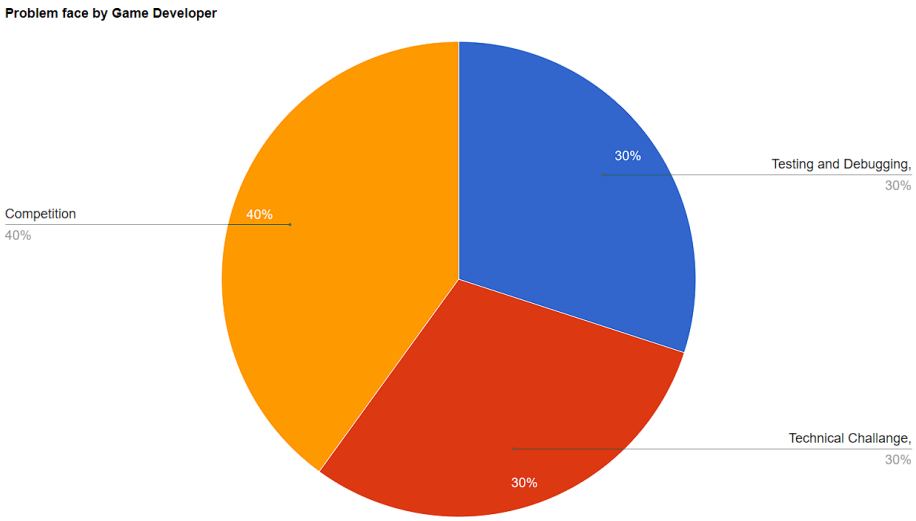
In this part I will be going to describe about data analyzing techniques and tools. I will be also describing about communication appropriate recommendations as a result of research and data analysis.

Data analyzing techniques and tools

The methods and software used to analyze and glean insights from data are known as data analysis techniques and tools. These methods and resources can be used to compile and define a dataset's features, spot patterns and trends, and create prediction models. Descriptive statistics, visualization, regression analysis, cluster analysis, and time series analysis are a few common methods for studying data. Excel, R or Python, Tableau, SPSS, and SAS are a few examples of tools for data analysis. Many different tasks, including data cleaning, data visualization, statistical analysis, and machine learning, can be carried out using these technologies. These methods and technologies are frequently used by data scientists, data analysts, and other experts to assist enterprises in making data-driven decisions.

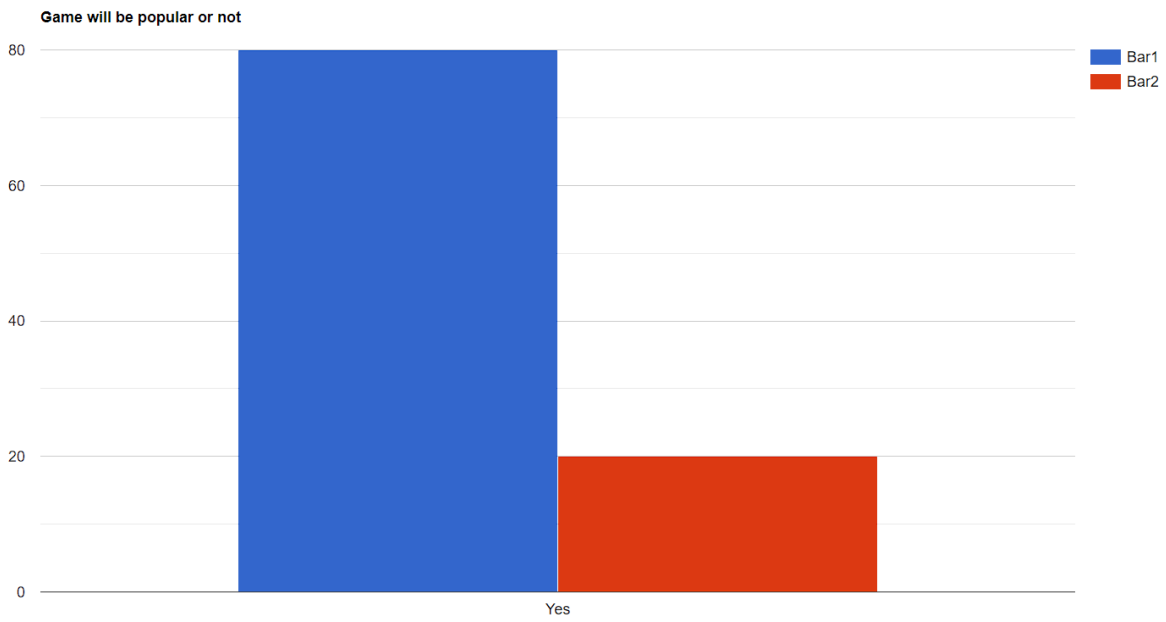
Analysis

- What is the main problem that are face by game developer



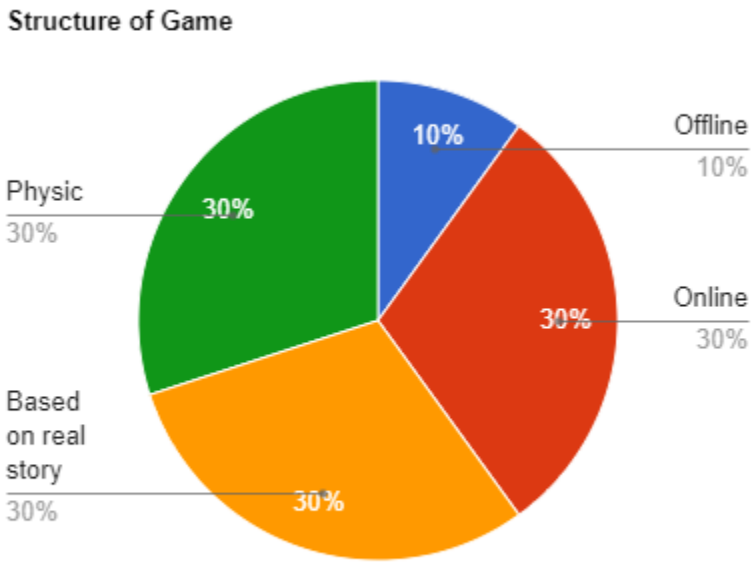
From the above pie chart, it can be determined that the problem that are faced by the game developer are different. Around 40% of developer should do competition to other company for creating best game. Around 30% they have to test, like weather there is bug or not and other things also. And last one, 30% is technical challenges.

- Will the game will be popular among the youngster or not?



As you can see in the bar developer voted the game will be popular among the youngster. Blue color represent yes and orange color represent no.

- What kind of feature will be adding in the game



According to the pie chart, the features of the game will be like this.

From above data, it can be analyzed that there are different tools and techniques that are adopted by the game developers. Developer should face different kinds of problem while creating the game. They should also focus on the performance on the game how game will be how they will promote the game. How game will be popular. And also, they should focus on the features of the game.

Recommendations related to data analysis

- Time should be improved so that organizations can easily accomplish their objectives.
- Regularly checking the accuracy and dependability of information is crucial.
- The right resources should be available, and they should be used effectively and efficiently.
- There should be a team of specialists with extensive experience using the technology.

Introduction

In this part I will be about what is the main objective.

Objective

The basic goal of game development is to produce a game that players will find interesting, amusing, and pleasurable. This entails planning and developing a game with engaging and enjoyable gameplay mechanics, narratives, graphics, and other elements. The target audience, the platform on which the game will be played, and the game's genre must all be considered by game creators in order to accomplish this goal.

Game creators may have goals than just providing players with a fun experience. For instance, many game developers hope to make money by selling their games, implementing in-game purchases, or running advertisements. Others aim to create a group of devoted and engaged players who will keep playing the game and contribute to its expansion and success. Some game designers utilize their creations as a vehicle to spread a message or advance a cause, including increasing public awareness of social or environmental problems. Others might create games with the intention of instructing or preparing players in a certain field or expertise.

In general, game developers' main purpose is to provide an interesting and pleasurable experience for players, but they may also have a number of other objectives.

Technology is essential to game development because it allows for the creation of increasingly complex and immersive gaming environments. High-quality graphics and realistic visual effects are now feasible thanks to developments in technology and software, making games more visually appealing and immersive. Better hardware and software also enable games to function more smoothly and effectively, giving players a better gaming experience. Game creators can generate realistic physics and artificial intelligence using game engines and other technologies, which can enhance the realism and plausibility of games. Additionally, technological advancements have made it simpler for gamers to connect and play online multiplayer games, enabling social elements.

Technology has also made it possible for game designers to create games with easier-to-use interfaces, which can enhance players' overall gaming. Overall, technology aids the creation of more complex and immersive gaming experiences, which can increase player engagement and enjoyment of games.

The project management plan outlines the processes and strategies from beginning to completion. It is an essential technique and calls for knowledge or comprehension in order to obtain expertise in the relevant sector. The management can analyze the information with its good and negative consequences with the aid of study. They are also aware of the danger and difficulties the Game Developer faces. The qualitative and quantitative data can be used by the researcher to gather information. It is possible to interpret this information using graphs, diagrams, etc. The competitive edge that the Game Developer can use is also identified in this project.

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