TRAINING SESSIONS

DOCUMENTATION

Submitted By:

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SESSION 1: GIT AND GITHUB

INTRODUCTION

- **Objective:** Familiarising what git version through Git Commands and GitHub Website.
- **Date and Time:** December 30, 2023, and January 1, 2024

AGENDA:

#	Task (What)
1	Explain Version Control
2	GitHub Walkthrough
3	Basic Git Commands & Merge Conflict
4	Pull Request

Contents

In the first session, we discussed the basics of Git and GitHub. This session aimed to provide participants with a foundational understanding of Git repository services and how to utilize GitHub effectively. We covered how to create a GitHub account, navigate the platform, and work with repositories. The goal was to ensure that all participants were comfortable with the interface and understood the purpose and benefits of using GitHub for version control.

The second session was more hands-on, focusing on demonstrating basic Git commands and explaining the Git workflow in detail. We covered essential concepts such as cloning and forking repositories, the differences between the two, and how they fit into collaborative workflows. Additionally, we discussed the process of creating pull

requests, managing merge conflicts, and committing changes. This session aimed to equip participants with practical skills to manage and contribute to repositories effectively.

Following these sessions, participants were assigned two tasks. The first task was to create a GitHub account, ensuring everyone could access the platform and follow along with future exercises. The second task involved more advanced operations: forming a repository, cloning a forked repository, making changes, committing those changes, and creating a pull request. These tasks were designed to reinforce the concepts covered in the sessions and provide hands-on experience with Git and GitHub.

SESSION 2: DATABASE

INTRODUCTION

- **Objective:** Familiarising with the fundamentals of database,PostgreSQL, and ER diagrams.
- **Date and Time:** January 25, 2024, and January 27, 2024

AGENDA

#	Tasks (What)
1.	Fundamentals of Database
2.	Concepts of Queries and keys
3.	PostgreSQL
4.	Introduction to ER diagrams
5.	Converting ER diagrams into database Schema

CONTENTS

In the first session, we discussed the fundamentals of databases, focusing on PostgreSQL and the essential concepts of queries and keys. Participants were introduced to the basic principles of database design, including the significance of primary and foreign keys, and how queries are used to interact with the database. This session aimed to provide a solid understanding of how databases function and the role of PostgreSQL as a powerful relational database management system.

In the subsequent session, we delved into Entity-Relationship (ER) diagrams and the process of converting these diagrams into database schemas. This session explained how ER diagrams serve as a blueprint for designing databases, illustrating the relationships between different entities. We then demonstrated how to transform these diagrams into practical database schemas that can be implemented in PostgreSQL.

Following these sessions, participants were assigned tasks to reinforce their learning. They were asked to create their own ER diagrams to model a database structure, set up a PostgreSQL environment, and write SQL queries for various operations such as selecting, inserting, deleting, and updating data. These tasks were designed to provide hands-on experience with database design and management, ensuring participants could apply the theoretical concepts in practical scenarios.

SESSION 3: WEB DESIGNING

INTRODUCTION

- **Objective:** Provided introduction to web designing concepts and how to build a practical application using html,css and javascript
- **Date and Time:** January 25, 2024, and January 27, 2024
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AGENDA

#	Tasks(What)
1	General Intro to web designing
2	HTML(Form hands-on)
3	CSS
4	JS Basics
5	JS for the form validation
6	React Intro & basics
7	React for form creation

CONTENTS:

In the first session, we explored the principles of web design, laying the foundation for creating aesthetically pleasing and user-friendly websites. This included an introduction to HTML (HyperText Markup Language) and CSS (Cascading Style Sheets). We covered the basics of HTML, such as creating and structuring web pages, and form creation. We also delved into CSS, learning how to style web pages to enhance their visual appeal and usability. Participants gained a solid understanding of how to build and style basic web pages using these essential technologies.

The final session focused on the fundamentals of JavaScript and React. We started with an introduction to JavaScript, covering its basic concepts and syntax. This included practical applications of JavaScript, such as form validation, which is crucial for ensuring that user inputs are correctly processed and stored. We then moved on to React, a popular JavaScript library for building user interfaces. The session included an overview of React's core principles and its use in form creation, emphasising how React can simplify and enhance the development of interactive web applications.

Following these sessions, participants were assigned tasks to apply their new skills. The first task was to create a personal portfolio web page, showcasing their abilities and projects. This task required them to use HTML and CSS to build and style their portfolio. The second task involved completing an HTML and CSS project, further reinforcing their understanding and proficiency in these technologies. These assignments were designed to provide hands-on experience and ensure that participants could effectively apply the concepts and techniques learned during the sessions.

SESSION 4: PRODUCT LIFE CYCLE

INTRODUCTION

- **Objective:** provide participants with a comprehensive understanding of the product life cycle (PLC) and its stages.

CONTENTS:

In the session on the product life cycle, we began with an introduction to the concept of the product life cycle and its importance in managing products from inception to decline. The session covered the various stages of the product life cycle, including introduction, growth, maturity, and decline, and highlighted the characteristics and challenges associated with each stage.

We discussed the reasons for using Product Life Cycle Management (PLM), emphasizing its role in maximizing product longevity, optimizing resources, and improving overall business strategy. The session also provided practical guidance on how to effectively use the product life cycle in planning and decision-making processes.

Additionally, we explored the factors that can affect the product life cycle, such as market trends, technological advancements, competition, and consumer behavior. Understanding these factors is crucial for adapting strategies and maintaining the product's relevance in the market.

By the end of the session, participants gained a comprehensive understanding of the product life cycle, its stages, the importance of PLM, and the various factors influencing the life cycle of a product.

SESSION 5: AGILE SOFTWARE DEVELOPMENT

INTRODUCTION

- **Objective:** provide participants with a comprehensive understanding of the product life cycle (PLC) and its stages.
- **Conducted By: Tarento**

CONTENTS:

In the session on Agile software development, participants were introduced to the key concepts and methodologies that underpin Agile practices. The session began with an overview of Agile software development, highlighting its iterative and incremental approach to project management and product development.

Participants were then given a detailed discussion of the Agile Manifesto, which outlines the core values and principles of Agile development. These values emphasize individuals and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, and responding to change over following a plan. Understanding these fundamental values is essential for effectively implementing Agile practices in any project.

The session also covered the Agile pyramid, a visual representation of the different layers and components that support Agile methodologies. The

pyramid typically highlights the foundation of Agile values and principles, with various practices and techniques building upon this base to support iterative development and continuous improvement.

Next, participants explored the core values and principles of Agile development. These principles include delivering valuable software frequently, welcoming changing requirements, maintaining a sustainable development pace, and fostering collaboration among cross-functional teams. By adhering to these principles, teams can enhance their flexibility, productivity, and ability to deliver high-quality software.

The session contrasted various Agile methodologies with the traditional Waterfall model. It was explained how the Waterfall model follows a linear and sequential approach to project management, which can be less adaptable to changes. In contrast, Agile methodologies like Scrum and Kanban offer more flexible and responsive frameworks.

- **Scrum Model:** Participants learned about the structure of Scrum, including roles such as Product Owner, Scrum Master, and Development Team, as well as key ceremonies like Sprint Planning, Daily Stand-ups, Sprint Reviews, and Retrospectives. Scrum emphasizes short, time-boxed iterations called sprints, enabling

teams to deliver increments of potentially shippable products regularly.

- **Kanban Model:** The session introduced the Kanban model, which focuses on visualizing work, limiting work in progress, and enhancing flow. Kanban boards help teams manage tasks and workflow, providing transparency and enabling continuous delivery without specific time-boxed iterations.

By the end of the session, participants gained a comprehensive understanding of Agile software development, its guiding principles, and the various methodologies used to implement Agile practices effectively. This knowledge equips participants to choose and apply the most suitable Agile framework for their projects, fostering a culture of continuous improvement and adaptability.