Roll No.: 58/A **Exam Seat No.**:____

VIVEKANAND EDUCATION SOCIETY'S INSTITUTE OF TECHNOLOGY

Department of Master of Computer Applications

CERTIFICATE

This is to certify that **Om Wadhwani** of **First Year Master of Computer Applications** studying under the University of Mumbai has satisfactorily completed a course of necessary experiments in **Agile Project Management** under my supervision in the Institute of Technology in the academic year 20**25** - 20**26**.

_____	_____
Principal	Head of the Department
_____	_____
Faculty Incharge	External Examiner

V.E.S. Institute of Technology, Collector Colony, Chembur, Mumbai

Department of M.C.A

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Final Grade	Instructor Signature

Name of Student: Om Wadhwani			
Roll Number: 58		**Tutorial Number:** 1	
Title of Tutorial : Business Case for Project (Case Study)			
DOP: 10/10/25		**DOS:** 17/10/25	
CO Mapped:	**PO Mapped:**	**Faculty Signature:**	**Marks:**

Executive Summary

1. Problem or Opportunity

As India's senior population continues to grow, an increasing number of elderly individuals are facing difficulties in managing daily tasks, accessing essential services, and adapting to rapidly changing technology. With families often unable to provide constant support due to busy schedules and geographic distances, seniors are at risk of social isolation, reduced independence, and diminished quality of life. At the same time, many young, skilled individuals seek flexible income opportunities. This presents a unique opportunity to create a solution that bridges the gap between these two groups through a technology-enabled, community-focused platform.\

2. Organizational Goal and Strategy

CareConnect aims to enhance the lives of senior citizens by providing them with a secure, accessible, and personalized support system. The organization's strategy focuses on:

- Creating a user-friendly digital platform that facilitates quick and easy access to support.
- Ensuring reliability and safety through stringent mentor verification processes.
- Promoting independence and dignity for seniors by offering assistance tailored to their individual needs.
- Encouraging intergenerational collaboration, allowing skilled younger individuals to support elders while earning income.

By combining compassionate care with technology, CareConnect envisions becoming a trusted, scalable solution for elder care in urban communities, starting with Mumbai and expanding to other regions.

3. Project's MOV (Measurable Organizational Value)

The project's Measurable Organizational Value is to improve the well-being of senior citizens by ensuring they can live more independently, safely, and with dignity. Specifically, the project targets:

- Onboarding 2,000+ senior users within the first year.
- Facilitating over 10,000 successful assistance requests.
- Engaging 1,000+ verified mentors to offer a wide range of services.
- Maintaining a 95%+ user satisfaction rate through personalized service and robust support.

These metrics directly support the organizational goal of enhancing senior care while empowering skilled individuals, creating a sustainable and socially impactful service.

4. Options or Alternatives Analyzed

Several approaches to addressing the problem were evaluated:

- Traditional Elder Care Services (e.g., home nurse agencies): Often expensive, rigid in scheduling, and impersonal in service delivery.
- Volunteer-Based Models (e.g., NGOs): Unsustainable due to dependency on unpaid labor and limited coverage area.
- Generic Freelancing Platforms (e.g., Urban Company): Not designed specifically for senior needs; lack of focused vetting and task personalization.
- Mobile App-Only Solution: Might exclude seniors who are not tech-savvy or comfortable with smartphones.

5. Brief Explanation of the Recommended Alternative and Why

The eldercare landscape is currently fragmented, with most solutions offering either narrowly focused services or generic platforms not designed with seniors in mind. While these options fulfill certain needs, they fall short of delivering a comprehensive, personalized, and senior-friendly experience.

Traditional Care Services provide high-touch support but are often expensive and inflexible. Their cost structures make them inaccessible to many middle-income families, and they typically lack real-time customization.

Volunteer or NGO Models are commendable for community outreach but face sustainability issues due to dependency on donations or volunteer availability. They also struggle to maintain consistent service quality, vetting, and coverage.

Generic Service Platforms (like UrbanClap or freelance job portals) offer a wide range of services, but they are not tailored for elderly users. **Mobile-Only Solutions** risk excluding a significant portion of the senior population who are unfamiliar or uncomfortable with smartphones, especially in older age brackets (65+).

CareConnect is being recommended because it fills the critical gap in the market: a **dedicated, all-in-one, web-based platform designed specifically for senior citizens and their families**. By combining verified mentorship, personalized assistance, and a user-centric interface, CareConnect ensures ease of use, safety, and accessibility. It also introduces a scalable model that empowers mentors economically while fostering community-driven support. This balanced approach enables CareConnect to deliver both functional and emotional value — something no existing alternative provides holistically.

Introduction

Background

India is experiencing a demographic shift with a rapidly growing elderly population. As families become more nuclear and urban lifestyles grow increasingly fast-paced, senior citizens often find themselves without immediate support for everyday tasks, healthcare needs, and technology-related challenges. While the intention to care for elders exists within families, time and accessibility constraints often make it difficult to provide timely assistance. This has resulted in many seniors experiencing a loss of independence, isolation, and a decline in overall well-being.

Recognizing this need, *CareConnect* was conceptualized as an innovative platform to bridge the gap between seniors in need and capable individuals who can provide assistance. The platform offers a structured, safe, and personalized way for seniors to receive help with tasks such as household chores, healthcare coordination, and technical support, all through qualified and verified mentors.

Current Situation

Currently, the market offers fragmented solutions. Traditional caregiving services are often expensive and inflexible, while freelance service platforms are not designed with the elderly in mind. Most existing solutions lack features such as mentor verification, personalized matching, and interfaces tailored to senior users. Additionally, these platforms do not foster a sense of community or companionship both critical to elder well-being.

At the same time, a large number of young, skilled individuals are seeking flexible, meaningful work opportunities. However, there is no established system that connects these individuals with seniors in need of assistance. This gap represents both a social challenge and an untapped opportunity.

Problem and Opportunity

The Problem: Fragmented, Inaccessible, and Unreliable Support for Seniors

As society becomes more digitally integrated and fast-paced, senior citizens are increasingly left behind—facing challenges in accessing everyday services, navigating technology, and maintaining their independence. While families care deeply for their elder members, work commitments, physical distance, and time constraints often prevent consistent in-person support. Seniors are frequently left to manage complex tasks such as booking appointments, handling household chores, or using smartphones and online services with little or no assistance.

The current landscape of eldercare solutions is fragmented and inadequate. Traditional caregiving services are often costly and inflexible, making them inaccessible to many middle-class families. On the other hand, NGOs and volunteer programs, though well-intentioned, are limited by availability and scalability. Generic service platforms like Urban Company or freelance portals are not tailored to elderly users — they lack proper verification systems, personalization, and the ease-of-use that seniors require. Many seniors are also hesitant to trust unfamiliar service providers, especially when privacy, safety, and health are involved.

Furthermore, most digital solutions assume a baseline level of technological literacy. Mobile apps with complex interfaces can be overwhelming, and seniors who are not comfortable with smartphones or digital payments find themselves excluded from many modern conveniences. This technological divide deepens social isolation and dependence, reducing overall quality of life.

The Opportunity: A Trusted, Personalized, and Scalable Care Ecosystem

This systemic gap presents a significant opportunity. There is growing demand for an integrated, accessible platform designed specifically for seniors — one that balances ease-of-use with reliability and safety. Families want peace of mind knowing their loved ones are supported, and many capable young individuals are actively seeking flexible, meaningful work in their communities.

CareConnect positions itself at the intersection of these unmet needs. It offers a web-based, user-friendly platform that connects seniors with pre-verified mentors who can assist with a wide range of tasks — from helping with household work or medical appointments to setting up a

smartphone or teaching video calling. This model not only empowers seniors to live more independently but also creates employment opportunities for skilled individuals who want to support their communities.

By focusing on trust, personalization, and community-building, *CareConnect* goes beyond transactional service. It becomes a reliable companion for daily life — bridging generations, reducing isolation, and enriching the overall aging experience.
The broader opportunity lies in building a sustainable ecosystem of care: one that adapts to local needs, incorporates user feedback, and evolves into a nationally recognized platform for elder assistance. As digital accessibility becomes a key public and social concern, *CareConnect* has the potential to lead in this emerging space — combining purpose, profit, and impact in a single solution.

Projects Measurable Organisational Value

The measurable organizational value (MOV) of the *CareConnect* project is to deliver a scalable platform that:

- Serves **2,000+ seniors** within the first year of launch
- Facilitates **10,000+ successful assistance interactions**
- Engages **1,000+ vetted mentors**
- Achieves a **95%+ user satisfaction rate**

These metrics will be used to evaluate the project's success in creating impact, promoting adoption, and delivering value to both seniors and mentors.

How Achieving the Project's MOV Will Support the Organisation's Goals and Strategy

The MOV directly supports *CareConnect*'s overarching goal: to empower senior citizens to live independently with dignity, while creating financial opportunities for skilled individuals. The strategy is built on three core pillars: accessibility, safety, and personalization. Achieving the MOV will demonstrate that the platform is not only meeting functional needs but also fulfilling the emotional and social objectives central to the organization's mission. Furthermore, it will validate the platform's potential for wider geographic expansion and long-term sustainability.

Objective of Writing This Business Case

The primary objectives of this business case are to:

- Present a clear and compelling rationale for the development and launch of the *CareConnect* platform
- Analyze and evaluate available alternatives and justify the most effective solution
- Define the project's scope, expected outcomes, and alignment with strategic goals
- Outline the benefits, feasibility, and long-term value of the project
- Secure stakeholder support and potential funding or institutional backing for implementation

Alternatives

Description of Alternatives 1

Alternative 1 – Base Case (Status Quo)

In the base case scenario, no dedicated solution like *CareConnect* is developed. Families and seniors continue relying on fragmented methods such as informal caregiving, expensive private

home care services, and generic service platforms like UrbanClap, Justdial, or unverified freelance helpers. Support is provided inconsistently, often depending on availability, affordability, or the digital ability of the senior or their family members.
While this option involves no initial investment in platform development or operations, it perpetuates several ongoing issues:

- **Limited accessibility** for seniors with low digital literacy.
- **Lack of personalized support**, leading to frustration and decreased user satisfaction.
- **Safety and trust concerns**, due to unverified service providers.
- **Increased isolation** and dependency, as seniors remain disconnected from reliable, social engagement-driven care.
- **Missed opportunity** to build a community-driven, scalable platform that empowers both seniors and mentors.

Although maintaining the status quo avoids development costs in the short term, it provides minimal long-term strategic value. It also fails to address the root problems identified, nor does it support the organization's vision of building an inclusive, tech-enabled care network.

Description of Alternatives 2

Alternative 2 – Development of the CareConnect Platform

This alternative involves the design, development, and deployment of *CareConnect* — a secure, web-based platform tailored specifically to address the daily support needs of senior citizens by connecting them with verified, skilled mentors in their local communities. The platform will include features such as:

- **Mentor Verification System**: Ensures that all support providers are background-checked and qualified.
- **Task Request Dashboard**: Allows seniors or their family members to request assistance with healthcare tasks, household chores, or technical help.
- **Personalized Matching Algorithm**: Matches mentors to seniors based on location, task type, preferences, and urgency.
- **Feedback and Rating System**: Builds trust and continuously improves service quality.
- **Community and Communication Tools**: Encourages intergenerational engagement, reducing loneliness and social isolation.

Though this option requires initial investment in development, user onboarding, and marketing, it delivers strong long-term benefits:

- **Improved quality of life** for seniors through accessible, reliable, and personalized support.
- **Financial opportunities** for young, skilled individuals acting as mentors.
- **Stronger brand identity** built around trust, compassion, and innovation in eldercare.
- **Scalable model** adaptable for future expansion across regions and service types.
- **Continuous improvement** via user feedback loops and platform analytics.

This alternative not only addresses the core issues of fragmentation, accessibility, and trust but also aligns directly with the organization's strategic goals — creating a sustainable, inclusive, and impactful eldercare ecosystem.

Analysis of Alternatives

Methodology

To determine the most viable solution, each alternative has been evaluated using a structured analysis framework. This includes both qualitative and quantitative factors to ensure a balanced assessment based on feasibility, impact, cost-effectiveness, and alignment with the organization's strategic goals.

1. Data Collection Methods

- **Primary Research**: Informal interviews with senior citizens, caregivers, and potential mentors were conducted to understand pain points, preferences, and platform expectations.
- **Secondary Research**: Industry reports, market studies on eldercare, and digital service usage trends among seniors in India were reviewed.
- **Comparative Benchmarking**: Existing platforms such as UrbanClap, ElderAid, and volunteer NGO models were analyzed to identify service gaps and usability limitations.
- **Internal Workshops**: Brainstorming sessions with student developers and academic mentors to validate technical feasibility, cost implications, and scalability.

2. Metrics Used for Evaluation

Each alternative will be evaluated based on a set of key performance metrics, chosen to reflect operational, financial, and strategic outcomes:

Metric	Definition	Relevance
User Accessibility	Ease of use for senior citizens with low digital literacy	Ensures usability by the primary demographic
Trust & Safety	Verification, data privacy, and quality of mentor support	Critical for adoption by vulnerable users
Operational Scalability	Ability to expand geographically or by services without high overhead	Supports long-term platform growth
Initial and Ongoing Cost	Development, deployment, and maintenance expenses	Affects financial feasibility and sustainability

Social Impact	Enhancement in quality of life and intergenerational connection	Aligns with organizational purpose and value
Revenue Potential	Opportunities for monetization through mentorship services or subscriptions	Important for sustainability and investor interest

Presentation of Results
This section summarizes the evaluation of the two alternatives—the Base Case (status quo) and the Neopack Unified Toolkit—using key metrics, sensitivity analysis, risks, and assumptions.

1. Comparison of Alternatives

Metric	Alternative 1: Status Quo	Alternative 2: CareConnect Platform
User Accessibility	**Low – Relies on seniors using multiple services**	**High – Centralized, senior-friendly UI**
Trust & Safety	**Low – Unverified service providers**	**High – Verified mentor system**
Scalability	**Low – Manual coordination limits growth**	**High – Digital platform enables scaling**
Initial Cost	**None**	**Medium – Requires initial investment in development and marketing**
Ongoing Cost	**High – Fragmented, inefficient tools**	**Medium – Centralized platform reduces operational cost per user**
Social Impact	**Minimal**	**High – Empowers both seniors and youth**

Revenue Potential	**None**	**High – Mentorship fees, premium services, partner integrations**

2. Sensitivity Analysis

- **Scenario A – High Adoption Rate**: Under aggressive marketing and family-driven onboarding, the platform quickly achieves critical mass, leading to early ROI, faster mentor recruitment, and network effects.
- **Scenario B – Low Digital Literacy**: If users struggle to adopt the platform due to tech resistance, additional support mechanisms (e.g., family assistance, offline booking options) will be needed, slightly increasing operational costs.
- **Scenario C – Regulatory Challenges**: If eldercare regulations tighten, the platform will need to add more compliance features, increasing development complexity and legal costs.

3. Risks and Mitigation

Risk	Impact	Mitigation
Low Adoption by Seniors	High	Include family booking option, voice-assist features
Verification Delays	Medium	Automate parts of the KYC and onboarding process
Data Privacy Concerns	High	Implement secure encryption and regular audits
Mentor Quality Variation	Medium	Ongoing feedback, rating systems, and retraining modules

4. Assumptions

- A sufficient number of mentors (at least 2,000 in the first year) are available and willing to join the platform.
- Initial launch will target a specific metro region (e.g., Mumbai) before scaling.
- Basic internet access is available to most intended users or their family members.
- The platform can be developed using common web technologies with available student/graduate-level developer skills.
- Revenue will be generated through a small service fee per booking and optional subscriptions for premium features.

Proposed Recommendation

Based on the comparative analysis, **Alternative 2: Development of the CareConnect Platform** is the recommended course of action. It demonstrates superior value across all core metrics, particularly in terms of accessibility, social impact, and scalability. While the base case may appear cost-effective in the short term, it fails to address the central problems of fragmentation, safety, and usability for seniors.

The CareConnect platform aligns tightly with the organization's mission and is capable of evolving into a national, even global, solution for community-based elder assistance.

Required Resources for Recommendation

To implement Alternative 2, the following resources and support will be necessary:

- **Technical Development Team**: 2–3 developers, 1 UI/UX designer, 1 backend/database specialist.
- **Marketing & Outreach**: Local campaigns to onboard both mentors and users; partnerships with senior centers and housing societies.
- **Legal & Compliance Support**: For mentor background checks and data protection compliance.
- **Customer Support**: Basic support team to assist with onboarding and troubleshooting.

Required Resources for Recommendation

The successful development and launch of **CareConnect** will require a combination of financial investment and organizational support. Key funding areas include platform development, UI/UX design, secure cloud infrastructure, and mentor verification systems. Additional costs will cover user onboarding tools, customer support, and local marketing initiatives to drive adoption among seniors and mentors.

Operational support will involve coordination between development, legal, and outreach teams to ensure compliance, usability, and ethical handling of user data. Institutional backing—such as university incubation, NGO partnerships, or civic engagement—will be essential to build trust and credibility in the community.

Post-launch, resources will be needed for platform maintenance, security updates, mentor performance monitoring, and feature enhancements such as multilingual support and voice-based navigation.

With adequate funding and structured support, **CareConnect** can deliver measurable social impact, align with strategic goals, and scale effectively to serve wider communities in need.

Name of Student: Om Wadhwani			
Roll Number: 58		**Tutorial Number:** 2	
Title of Tutorial : Software Requirement Specification (SRS Case Study)			
DOP: 17/10/25		**DOS:** 24/10/25	
CO Mapped:	**PO Mapped:**	**Faculty Signature:**	**Marks:**

Software Requirements Specification (SRS)

Product Name: CareConnect

1. Introduction

1.1 Purpose of this Document

This document defines the functional and non-functional requirements for theCareConnect. Its purpose is to provide a clear, detailed guide for developers, stakeholders, and users regarding the features, behavior, and performance of the system. The document serves as a foundation for design, development, testing, and deployment, ensuring all parties share a common understanding of the product.

1.2 Scope of this Document

CareConnect is an online platform designed to connect senior citizens with skilled mentors for assistance with daily tasks such as healthcare support, household chores, and technology help. The platform aims to improve seniors' quality of life by facilitating trustworthy, personalized connections via a secure, user-friendly interface. The project leverages ASP.NET with C# for the frontend and backend development, using MS-SQL as the database management system. The expected development timeline is 6–8 months, with a budget estimate of INR 3,00,000–4,00,000.

1.3 Overview

CareConnect integrates mentor verification, personalized matching, and communication features into a single cohesive system. The platform prioritizes accessibility for senior users, security of personal data, and scalability to support future service expansion. Limitations include reliance on internet connectivity for real-time communications and the complexity of mentor credential verification.

2. General Description

CareConnect is targeted at senior citizens (65+) needing daily assistance, and qualified mentors seeking to offer their services. The platform reduces dependency on fragmented, unreliable support methods by centralizing services through a secure and easy-to-use web interface.

Key Features:

- Mentor registration with stringent verification
- Personalized matching based on seniors' specific needs
- Request and scheduling of assistance via an intuitive GUI
- Secure messaging and support tracking

Benefits:

- Improved accessibility and independence for seniors
- Reliable, vetted support services
- Opportunity for mentors to earn through community service
- Enhanced community engagement and reduced isolation

User Community: Seniors, their families, mentors, and caregivers.

3. Functional Requirements

User Registration & Verification

- Input: Personal data, credentials for mentors
- Processing: Verification of mentor qualifications and background checks
- Output: Verified mentor status and profiles

Request Assistance Module

- Input: Seniors' assistance requests specifying task type and timing
- Output: Matched mentors based on personalized criteria

Communication Interface

- Features: Secure messaging and notifications for mentors and seniors

Admin Dashboard

- Monitoring of users, requests, and platform health

4. Interface Requirements

- **User Interface:** Developed with ASP.NET and C#, optimized for desktop and mobile browsers
- **Database:** MS-SQL for storing user data, requests, and transaction records
- **APIs:** Internal APIs for mentor verification and matching logic
- **Security:** HTTPS protocol, encrypted data storage, role-based access control

5. Performance Requirements

- Fast response time for request matching (<5 seconds)
- High availability (95.5% uptime)
- Scalable architecture to support increasing user base without performance degradation

6. Design Constraints

- Developed within Microsoft .NET framework (ASP.NET, C#)
- Dependent on reliable internet access for platform functionality
- Compliance with data privacy regulations such as GDPR

7. Non-Functional Attributes

- Security: Encryption of sensitive user information
- Usability: Accessible design catering to seniors with limited tech skills
- Reliability: Redundant systems to ensure uptime
- Scalability: Modular architecture allowing future feature expansion

8. Preliminary Schedule and Budget

Development Period: 6–8 months
Estimated Budget: INR 3,00,000–4,00,000

Key Milestones:

1. Requirement gathering and design — 1 month
2. Core module development (user management, matching engine) — 3 months
3. Communication and admin features — 2 months
4. Testing, QA, deployment — 2 months

9. Appendices

References: ASP.NET documentation, MS-SQL manuals, relevant security standards

Definitions:

- Mentor Verification: Process to confirm credentials and background
- Personalized Matching: Algorithm matching seniors with mentors based on needs

Acronyms:

- GUI: Graphical User Interface
- API: Application Programming Interface

10. Limitations

Internet dependency: CareConnect is a web-based platform that requires a stable internet connection for real-time communication, request scheduling, and data access. Limited connectivity may hinder usability, especially in remote areas.

User training and accessibility: Although the platform is designed for seniors, users with minimal digital literacy may still require initial guidance or support to use all features effectively.

Name of Students: Om Wadhwani			
Roll Number: 58		**Lab Assignment Number:** 03	
Title of Lab Assignment: Creating a Project Plan or WBS, Establishing the Project Start or Finish Date, Entering Tasks			
DOP: 24/10/25		**DOS:** 31/10/25	
CO Mapped:	**PO Mapped:**	**Faculty Signature:**	**Marks:**

Creating a Project Plan and Project Scheduling tools

1. Introduction:

CareConnect is a web-based platform designed to enhance the quality of life for senior citizens by connecting them with verified mentors who assist in various daily tasks. The platform is developed with the goal of addressing the growing challenges faced by the elderly in a rapidly digitalizing world, offering help in areas such as healthcare, technology, and household chores. It empowers seniors to maintain their independence while receiving trustworthy support whenever needed.

The idea for CareConnect emerged from the realization that many seniors struggle with modern technology and daily activities due to the fast-paced nature of today's lifestyle. Family members are often unable to provide consistent assistance due to professional and personal commitments. CareConnect bridges this gap by providing a safe, user-friendly environment where seniors can find skilled mentors and receive timely, personalized help.

Beyond assistance, CareConnect aims to foster social connections and promote intergenerational bonding. It provides young, skilled mentors an opportunity to contribute positively to society while earning an income. Through continuous user feedback and technological improvements, CareConnect aspires to expand its reach, strengthen its community, and become a reliable digital companion for elderly care and empowerment.

1.2. Overview of Project Scheduling Tools:

1.2.1. Definition and Purpose:

Project scheduling tools are software systems designed to plan, organize, and track project tasks effectively. They help visualize project timelines, allocate resources, and establish dependencies between activities. By doing so, they ensure that all project tasks are completed efficiently within the planned duration. For *CareConnect*, the scheduling tool was used to maintain transparency, monitor progress, and guarantee timely completion of development stages such as analysis, design, implementation, and testing.

1.2.2. Tool Used — WBS Chart Pro:

For the CareConnect project, WBS Chart Pro was selected as the project planning and scheduling tool. It is a powerful project management software that focuses on creating Work Breakdown Structure (WBS) charts to visually organize and define the scope of a project. The tool allows users to break down complex projects into manageable components, define tasks, establish hierarchies, and link work packages effectively. It integrates well with Microsoft Project and supports clear visualization of project deliverables. WBS Chart Pro was ideal for this

academic project due to its structured approach, user-friendly interface, and ability to clearly represent project phases and dependencies. Using WBS Chart Pro, every phase of CareConnect—from requirement gathering to deployment—was systematically planned, visualized, and monitored.

1.3. Project Planning Approach:

The *CareConnect* project adopted a phased planning approach based on the Software Development Life Cycle (SDLC). Each stage—Requirement Analysis, System Design, Implementation, Testing, and Deployment—was treated as an individual work package. The tasks within each stage were defined with estimated durations and dependencies. This approach ensured that no phase began until the preceding one reached a defined completion level, promoting efficiency and minimizing rework. The iterative planning allowed feedback and improvements at every stage.

1.4. Creating the Project Plan and Work Breakdown Structure (WBS):

The Work Breakdown Structure (WBS) for *CareConnect* decomposed the project into smaller, manageable tasks. Each level of the WBS represented a specific deliverable aligned with project objectives. The structure ensured systematic progress from concept to completion.

Table 1.1: Work Breakdown Structure (WBS)

WBS ID	Major Phase	Detailed Activities	Duration (Days)	Deliverable
1.0	Requirement Analysis	Gathering user needs, defining functional & non-functional requirements	15	Requirement Report
2.0	System Design	Creating ER, DFD, UML diagrams, module division	33	Design Document
3.0	Frontend Development	Designing interfaces using ASP.NET and CSS	30	User Interface
4.0	Backend Development	Developing logic using C# and SQL integration	10	Functional Backend

5.0	Database Setup	Creating SQL Server database and linking modules	20	Database Schema
6.0	Integration	Connecting frontend, backend, and database modules	10	Integrated Application
7.0	UI/UX Enhancements	Improving interface styling, responsiveness, and layout consistency	5	Enhanced User Interface
8.0	Testing	Conducting unit, integration, and validation tests	15	Test Report
9.0	Deployment	Hosting and final validation	10	Live System
10.0	Documentation	Report writing and formatting	10	Final Report

1.5. Establishing Project Start and Finish Dates:

The *CareConnect* project was planned with clearly defined **start and finish dates** for each phase to maintain academic timelines and realistic work pacing.

Table 1.2: Project Schedule Timeline

Phase	Start Date	End Date	Duration (days)
Requirement Analysis	17 June 2024	05 July 2024	15
System Design	08 July 2024	21 August 2024	33
Frontend Development	22 August 2024	02 October 2024	30
Backend Development	03 October 2024	16 October 2024	10
Database Setup	17 October 2024	13 November 2024	20

Integration Phase	14 November 2024	27 November 2024	10
UI Enhancements	28 November 2024	04 December 2024	5
Testing Phase	05 December 2024	25 December 2024	15
Deployment	26 December 2024	18 January 2025	20
Documentation	19 January 2025	24 February 2025	37

Project Start Date: 17 June 2024
Project End Date: 24 February 2025
Total Duration: 36 weeks

1.6. Entering Tasks and Defining Dependencies:

In GanttProject, all *CareConnect* tasks were entered sequentially as per the WBS. Each task had a defined start date, duration, assigned member, and dependency.
Example dependencies:

- **System Design** began after **Requirement Analysis** completion.
- **Backend Development** started post **Frontend completion (80%)**.
- **Integration** followed after both **Backend** and **Database Setup** were completed.
- **Testing** proceeded only after **Integration**.
- **Deployment** followed successful testing.

These dependencies ensured logical flow and eliminated overlaps between phases.

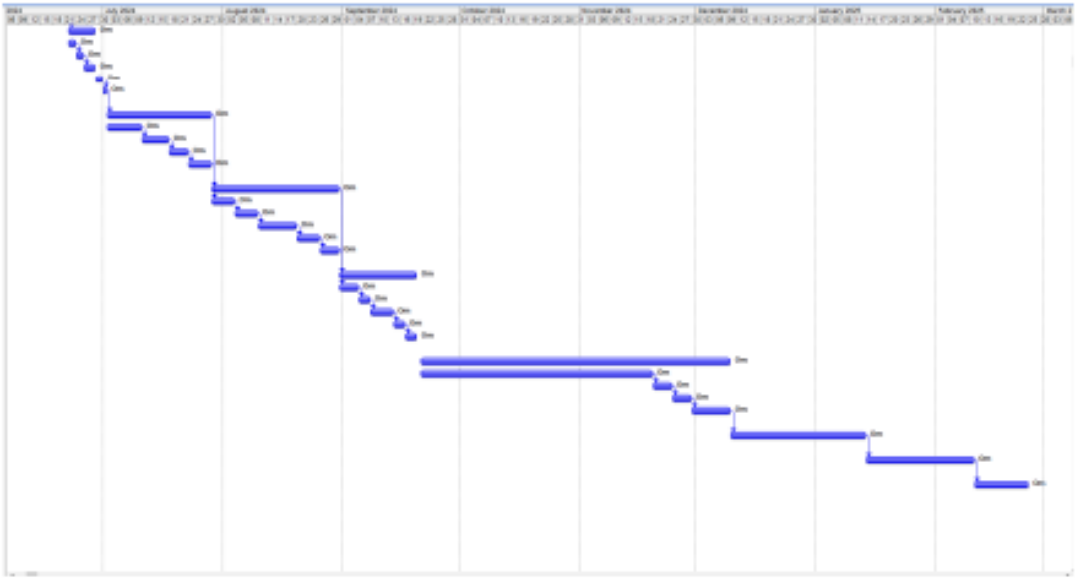
1.7. Visualization Through Gantt Chart:

The **Gantt Chart** generated in GanttProject provided a clear graphical view of all tasks, durations, and interdependencies. Each bar represented a phase, and arrows indicated dependencies.
Color codes were used to indicate task status:
🟢 Completed 🔵 Ongoing ⚪ Pending 🔴 Delayed
This visualization helped in quickly identifying the project's current status and critical path.

Table 1.1: Gantt Chart Data for CareConnect Project

	Task Name	Duration	Start	Finish	Predecessors	Resource Names
13	2.2 Backend	7 days	Thu 11/07/24	Wed 17/07/24	12	Om
14	2.3 Languages	5 days	Thu 18/07/24	Mon 22/07/24	13	Om
15	2.4 Justification of Platform	6 days	Tue 23/07/24	Sun 28/07/24	14	Om
16						
17	Chapter 3 System Analysis	33 days	Mon 29/07/24	Fri 30/08/24	15	Om
18	3.1 Existing System	6 days	Mon 29/07/24	Sat 03/08/24	11	Om
19	3.2 Proposed System	6 days	Sun 04/08/24	Fri 09/08/24	18	Om
20	3.3 Requirement Analysis	10 days	Sat 10/08/24	Mon 19/08/24	19	Om
21	3.4 Hardware Requiremen	6 days	Tue 20/08/24	Sun 25/08/24	20	Om
22	3.5 Software Requirement	5 days	Mon 26/08/24	Fri 30/08/24	21	Om
23						
24	Chapter 4 System Design	20 days	Sat 31/08/24	Thu 19/09/24	22	Om
25	4.1 Module Division	5 days	Sat 31/08/24	Wed 04/09/24	17	Om
26	4.2 Data Dictionary	3 days	Thu 05/09/24	Sat 07/09/24	25	Om
27	4.3 Entity Relatyionship Dia	6 days	Sun 08/09/24	Fri 13/09/24	26	Om
28	4.4 Data Flow Diagram	3 days	Sat 14/09/24	Mon 16/09/24	27	Om
29	4.5 UML Diagram	3 days	Tue 17/09/24	Thu 19/09/24	28	Om
30						
31	Chapter 5: Implementation	80 days	Sat 21/09/24	Mon 09/12/24		Om
32	5.1 Code	60 days	Sat 21/09/24	Tue 19/11/24		Om
33	5.2 Strategic approach to	5 days	Wed 20/11/24	Sun 24/11/24	32	Om
34	5.3 Testing Approaches	5 days	Mon 25/11/24	Fri 29/11/24	33	Om
35	5.4 Test Case	10 days	Sat 30/11/24	Mon 09/12/24	34	Om
36						
37	Chapter 6: Result and Disc	35 days	Tue 10/12/24	Mon 13/01/25	35	Om
38						
39	Chapter 7: Conclusion and	28 days	Tue 14/01/25	Mon 10/02/25	37	Om
40						
41	Chapter 8: References	14 days	Tue 11/02/25	Mon 24/02/25	39	Om

1. Visualization of the Gantt Chart



1.8. Progress Monitoring and Control:

Weekly progress tracking was performed using the **percent completion** feature in GanttProject. This allowed monitoring of project health and identifying early delays. Weekly reviews ensured any schedule slippage was corrected by adjusting dependent task timelines. The progress data also supported transparent reporting to the project guide and coordinator.

1.9. Benefits of Project Scheduling Using GanttProject:

Implementing scheduling with **GanttProject** provided several advantages:

1. **Efficient Planning:** Clearly structured phases with defined timelines.
2. **Dependency Management:** Logical sequencing prevented conflicts.
3. **Resource Utilization:** Tasks were balanced to avoid overloads.
4. **Transparency:** Visual tracking made reporting easy and accurate.
5. **Cost-Effective:** Open-source and offline use reduced expenses.
6. **Continuous Control:** Real-time updates supported effective decision-making.

Name of Students: Om Wadhwani			
Roll Number: 58		**Lab Assignment Number:** 04	
Title of Lab Assignment: Gantt chart, Critical Path Analysis.			
DOP: 31/10/25		**DOS:** 7/11/25	
CO Mapped: CO1	**PO Mapped:** PO1, PO6, PSO1, PSO2	**Faculty Signature:**	**Marks:**

Gantt Chart, Critical Path Analysis

1. Introduction:

CareConnect is a web-based platform designed to enhance the quality of life for senior citizens by connecting them with verified mentors who assist in various daily tasks. The platform was developed with the goal of addressing the growing challenges faced by the elderly in a rapidly digitalizing world, offering help in areas such as healthcare, technology, and household chores. It empowers seniors to maintain their independence while receiving trustworthy support whenever needed.

The idea for CareConnect emerged from the realization that many seniors struggle with modern technology and daily activities due to the fast-paced nature of today's lifestyle. Family members are often unable to provide consistent assistance due to professional and personal commitments. CareConnect bridges this gap by providing a safe, user-friendly environment where seniors can find skilled mentors and receive timely, personalized help.

Beyond assistance, CareConnect aims to foster social connections and promote intergenerational bonding. It provides young, skilled mentors an opportunity to contribute positively to society while earning an income. Through continuous user feedback and technological improvements, CareConnect aspires to expand its reach, strengthen its community, and become a reliable digital companion for elderly care and empowerment.

2. Gantt Chart: Concept and Importance:

A Gantt Chart is a visual project scheduling tool that represents tasks as horizontal bars across a timeline. Each bar's position and length indicate the start date, duration, and end date of the task. It clearly shows which tasks run concurrently, which depend on others, and where milestones are placed.

2.1. Importance in Software Projects:

The Gantt Chart offers numerous benefits in software development projects such as:

- Visual clarity: It helps stakeholders easily understand the project timeline.
- Dependency management: Displays relationships between tasks.
- Progress monitoring: Allows tracking of completed vs pending activities.
- Time optimization: Highlights overlapping activities for efficient execution.
- Communication: Serves as a communication tool for project reporting and review.

In the CareConnect project, Gantt charts were created using GanttProject, as it offered open-source capabilities similar to Microsoft Project, with interactive drag-and-drop scheduling, dependencies, and percent completion tracking.

3. Gantt Chart for CareConnect:

The Gantt Chart was generated using the project plan developed in the previous chapter. Each project phase—ranging from requirement gathering to documentation—was entered as a task, with corresponding start and end dates, durations, and dependencies.

Table 1.1: Gantt Chart Data for CareConnect Project

	Task Name	Duration	Start	Finish	Predecessors	Resource Names
13	2.2 Backend	7 days	Thu 11/07/24	Wed 17/07/24	12	Om
14	2.3 Languages	5 days	Thu 18/07/24	Mon 22/07/24	13	Om
15	2.4 Justification of Platform	6 days	Tue 23/07/24	Sun 28/07/24	14	Om
16						
17	Chapter 3 System Analysis	33 days	Mon 29/07/24	Fri 30/08/24	15	Om
18	3.1 Existing System	6 days	Mon 29/07/24	Sat 03/08/24	11	Om
19	3.2 Proposed System	6 days	Sun 04/08/24	Fri 09/08/24	18	Om
20	3.3 Requirement Analysis	10 days	Sat 10/08/24	Mon 19/08/24	19	Om
21	3.4 Hardware Requiremen	6 days	Tue 20/08/24	Sun 25/08/24	20	Om
22	3.5 Software Requirement	5 days	Mon 26/08/24	Fri 30/08/24	21	Om
23						
24	Chapter 4 System Design	20 days	Sat 31/08/24	Thu 19/09/24	22	Om
25	4.1 Module Division	5 days	Sat 31/08/24	Wed 04/09/24	17	Om
26	4.2 Data Dictionary	3 days	Thu 05/09/24	Sat 07/09/24	25	Om
27	4.3 Entity Relatyionship Dia	6 days	Sun 08/09/24	Fri 13/09/24	26	Om
28	4.4 Data Flow Diagram	3 days	Sat 14/09/24	Mon 16/09/24	27	Om
29	4.5 UML Diagram	3 days	Tue 17/09/24	Thu 19/09/24	28	Om
30						
31	Chapter 5: Implementation	80 days	Sat 21/09/24	Mon 09/12/24		Om
32	5.1 Code	60 days	Sat 21/09/24	Tue 19/11/24		Om
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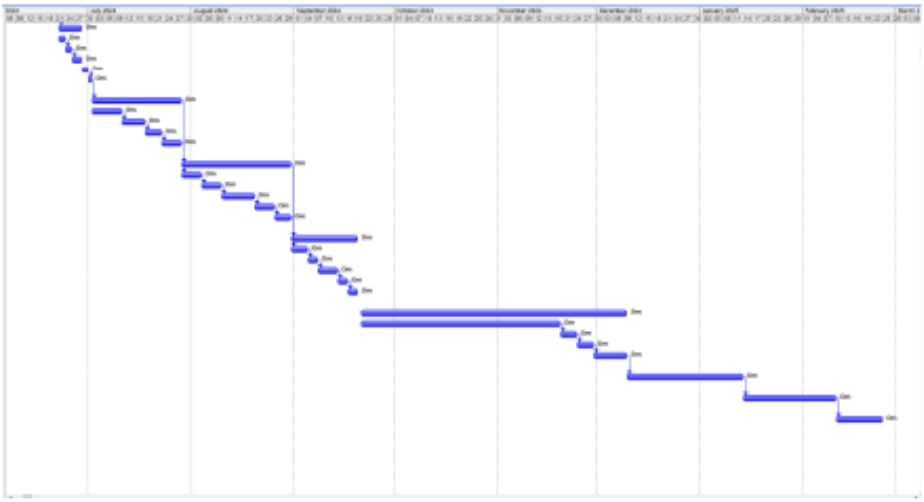
4. Visualization of the Gantt Chart



5. Critical Path Analysis (CPA):

5.1. Definition:

The Critical Path represents the longest sequence of dependent activities that must be completed on time for the project to finish by its due date. If any task on the critical path is delayed, the entire project gets delayed.

5.2. Steps in Critical Path Analysis:

1. List all project activities.
2. Identify dependencies between activities.
3. Estimate the duration of each activity.
4. Draw a network diagram showing task flows.
5. Determine all possible paths and calculate their total durations.
6. The path with the longest duration is the critical path

5.3. Application in CareConnect:

Activity ID	Activity Name	Dependencies	Duration (Days)
A	Requirement Analysis	-	15
B	System Design	A	33
C	Frontend Development	B	30
D	Backend Development	C	10
E	Database Setup	D	20
F	Integration Phase	D,E	10
G	UI/UX Enhancements	F	5
H	Testing Phase	F,G	15
I	Deployment	H	20
J	Documentation	I	37

6. Benefits of Gantt Chart and Critical Path Analysis:

- **Visual Scheduling:** Gantt charts simplify project complexity into a single timeline view.
- **Resource Optimization:** CPA helps prioritize time and effort on critical activities.

- **Risk Mitigation:** Early identification of dependencies prevents bottlenecks.
- **Performance Tracking:** Both tools provide measurable indicators of project progress.
- **Communication Clarity:** They help faculty and stakeholders quickly understand status and dependencies.

7. Conclusion:

The combination of Gantt Chart and Critical Path Analysis proved invaluable in planning and executing the CareConnect project effectively. While the Gantt Chart provided a clear and continuous visualization of the project timeline, the Critical Path Analysis ensured that focus remained on key activities essential to timely completion.

By integrating both these tools through GanttProject, the project was managed efficiently from requirement gathering to documentation. This structured approach not only improved time management and coordination but also demonstrated the practical application of professional project management techniques in an academic context.

Name of Students: Om Wadhwani			
Roll Number: 58		**Lab Assignment Number:** 05	
Title of Lab Assignment: Study of Agile Project Management Tools.			
DOP: 7/11/25		**DOS:** 14/11/25	
CO Mapped:	**PO Mapped:**	**Faculty Signature:**	**Marks:**

Aim: Study of Agile Project Management Tool-Jira, Wrike, Monday.com, Trello, Click UP
Theory:

1. Introduction
Agile Project Management tools help teams plan, track, and manage work efficiently using iterative workflows. Modern tools provide features like task management, sprint planning, team collaboration, dashboards, and automation. This document presents an overview and comparison of five widely used Agile tools—**Jira, Wrike, Monday.com, Trello, and ClickUp**—highlighting their features, advantages, limitations, and ideal use cases.

2. Jira
Jira, developed by Atlassian, is one of the most popular tools for Agile and software development teams. It supports Scrum, Kanban, and hybrid methodologies.
Key Features

- Scrum and Kanban boards
- Sprint planning and backlog management
- Advanced workflow customization
- Roadmaps and release tracking
- Integration with Confluence, Bitbucket, GitHub
- Powerful reporting (burndown charts, velocity charts)

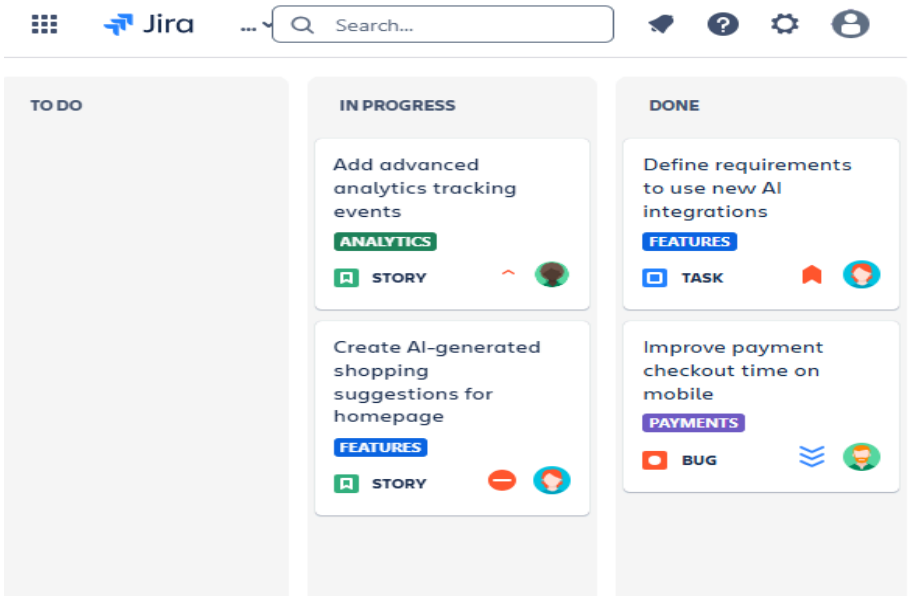
Advantages

- Best suited for technical and software development teams
- Highly configurable workflows
- Strong ecosystem of plugins

Limitations

- Complex for beginners
- Requires setup time

Best For
Large or mid-sized teams using Scrum/Kanban with complex workflows.



3. Wrike

Wrike is a versatile project management tool suitable for Agile as well as traditional project teams.

Key Features

- Custom dashboards and Gantt charts
- Agile-friendly boards
- Time-tracking and resource management
- Automation and workflow templates
- File proofing for creative teams

Advantages

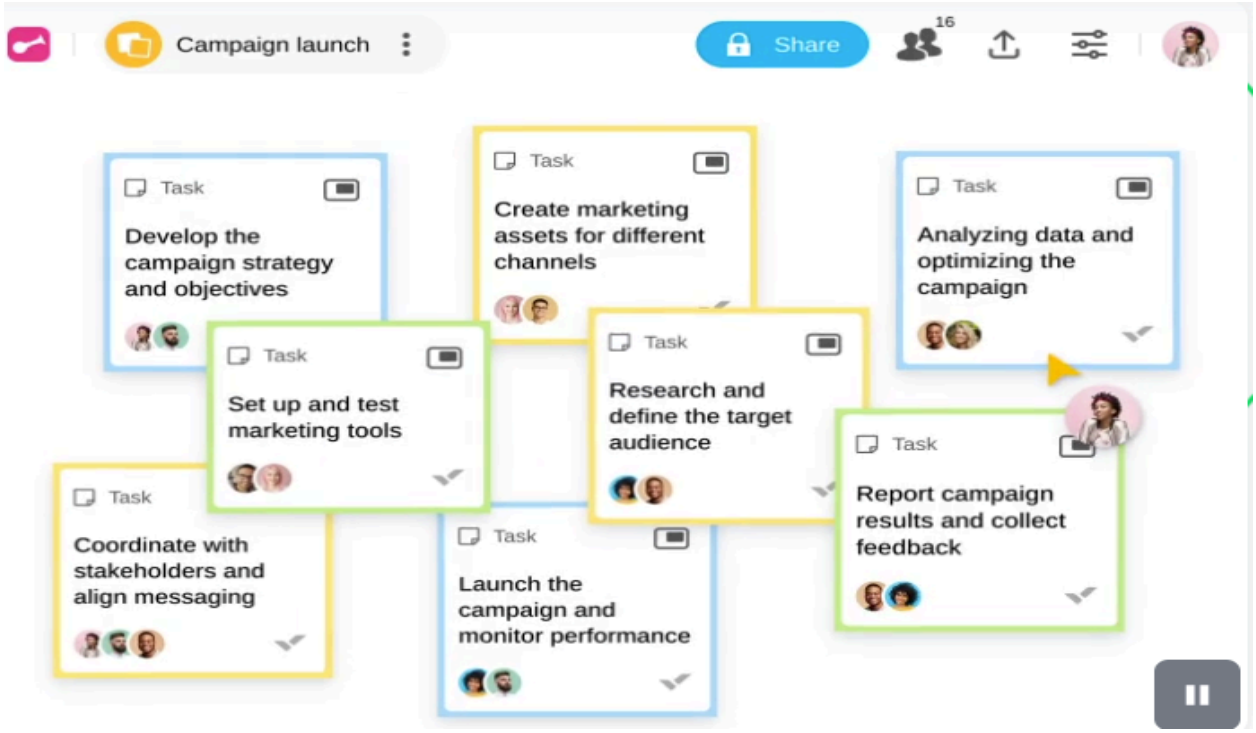
- Great for cross-functional teams
- Strong collaboration features
- Detailed analytics

Limitations

- Interface may feel cluttered
- Some advanced features are expensive

Best For

Marketing, creative, and enterprise teams needing both Agile and non-Agile tools.



4. Monday.com

Monday.com is a highly visual work management tool that supports Agile workflows with customizable boards.

Key Features

- Visual boards for tasks and sprints
- Automation for repetitive actions
- Dashboards for progress tracking

- Integrations with Slack, GitHub, Zoom, Excel
- Timeline, calendar, and Kanban views

Advantages

- Extremely user-friendly interface
- Flexible for many project types
- Strong automation and visualization

Limitations

- Limited advanced Agile reports compared to Jira
- Can be costly for larger teams

Best For

Teams preferring a simple, flexible, and visually appealing platform.

5. Trello

Trello, also by Atlassian, is a lightweight, Kanban-based tool ideal for small teams and simple workflows.

Key Features

- Drag-and-drop Kanban boards
- Checklists, labels, due dates
- Power-Ups for customization (calendar, automation, Gantt)
- Collaboration through comments and file attachments

Advantages

- Very easy to use
- Great for personal projects or small teams
- Free version is powerful

Limitations

- Not suitable for complex Agile projects
- Limited reporting and advanced features

Best For

Beginners, students, small teams, and personal task management

6. ClickUp

ClickUp is a modern all-in-one work management platform offering comprehensive Agile support.

Key Features

- Multiple views: List, Board, Gantt, Calendar
- Sprint management and Agile dashboards
- Custom fields and statuses
- Time-tracking and workload management
- Automation and integrations

Advantages

- Very flexible and customizable
- Suitable for both simple and advanced workflows
- Affordable and rich in features

Limitations

- Lots of features can overwhelm new users

Best For

Teams wanting a customizable, all-in-one productivity and project management tool.

7. Conclusion

Each Agile tool offers unique strengths depending on the team's size, project complexity, and workflow needs. Jira is ideal for technical teams needing depth, Trello for simplicity, Monday.com for visually-driven teams, Wrike for enterprise-level collaboration, and ClickUp for teams seeking a highly flexible all-in-one solution. Choosing the right tool requires understanding the team’s workflow, reporting requirements, and scalability needs.

Name of Student : Om Wadhwani			
Roll Number : 58		**Lab Assignment Number :** 06	
Title of Lab Assignment : Identifying Responsibilities and Qualification of Agile Project team.			
DOP : 14/11/25		**DOS :** 21/11/25	
CO Mapped :	**PO Mapped :**	**Faculty Signature :**	**Marks :**

Aim - To Identify Responsibilities and Qualification of Agile Project team

Title - Identifying Responsibilities and Qualification of Agile Project team (Case Study)

1. Project Overview

The proposed project is an **CureHub Website** designed to provide users with an easy and secure way to purchase medicines online. The platform aims to be **user-friendly** by allowing customers to **search for medicines** and view **alternative brands with the same chemical formula or composition**, ensuring cost-effectiveness and informed purchasing decisions.
This system also includes essential e-commerce features such as:

- Secure user authentication and profile management
- Medicine search and filter functionality
- Smart recommendations for alternate brands
- Online ordering and digital prescription upload
- Secure payment gateway integration
- Order tracking and delivery management

The project follows an **Agile Development Methodology**, emphasizing collaboration, flexibility, and iterative progress.

2. Agile Approach

Agile methodology is chosen because it allows **incremental development**, **continuous feedback**, and **adaptation to changing requirements** — crucial in healthcare and e-commerce domains where regulations and user expectations evolve quickly.
Each sprint delivers a functional module, ensuring transparency and continuous improvement through stakeholder feedback.

3. Agile Team Structure

An Agile project team is **cross-functional** and **self-organizing**, comprising members with different expertise who collaborate closely to deliver working software at the end of each iteration.

Role	Key Responsibilities	Required Qualifications / Skills
Product Owner (PO)	- Defines the product vision and business goals. - Prioritizes product backlog items. - Acts as the main link between stakeholders and the development team. - Approves user stories and ensures alignment with business value.	- Strong understanding of the pharmaceutical and e-commerce domain. - Excellent communication and decision-making skills. - Knowledge of Agile principles and backlog management tools (e.g., Jira, Trello).

Scrum Master (SM)	- Facilitates Agile ceremonies (daily stand-ups, sprint planning, retrospectives). - Removes impediments that block team progress. - Ensures the team adheres to Agile values and practices.	- Certified Scrum Master (CSM) preferred. - Strong leadership and problem-solving skills. - Experience in Agile coaching and conflict resolution.
UI/UX Designer	- Designs intuitive and accessible user interfaces. - Conducts user research and usability testing. - Creates wireframes, mockups, and interactive prototypes.	- Expertise in Figma, Adobe XD, or Sketch. - Understanding of user-centered design principles. - Experience designing e-commerce or healthcare platforms.
Frontend Developer	- Implements the UI using web technologies. - Integrates design prototypes with backend APIs. - Ensures responsive, cross-browser-compatible, and performant user interfaces.	- Proficiency in HTML, CSS, JavaScript, React/Angular/Vue. - Familiarity with REST APIs and version control (Git).
Backend Developer	- Develops and maintains the server-side logic. - Manages database design and APIs for medicine search and recommendations. - Implements authentication, order processing, and payment integration.	- Proficiency in Node.js, Django, or Laravel. - Strong SQL/NoSQL database knowledge. - Understanding of data security and healthcare compliance (HIPAA-like standards).
Database Administrator (DBA)	- Designs and maintains the database structure. - Ensures data integrity, performance, and security. - Implements backup and recovery mechanisms.	- Expertise in MySQL, PostgreSQL, or MongoDB. - Strong analytical and optimization skills.

QA/Test Engineer	- Develops test cases and performs manual/automated testing. - Validates functionality, performance, and security. - Ensures each sprint delivers a stable increment.	- Experience with Selenium, JUnit, or Postman. - Knowledge of Agile testing and CI/CD processes.
DevOps Engineer	- Manages continuous integration/continuous deployment (CI/CD) pipelines. - Monitors and maintains cloud infrastructure. - Ensures scalability and system uptime.	- Proficiency in AWS, Azure, or Google Cloud. - Knowledge of Docker, Jenkins, Kubernetes.
Business Analyst	- Gather requirements and translate them into user stories. - Analyzes data to improve business processes and customer satisfaction. - Coordinates between stakeholders and development teams.	- Excellent analytical and communication skills. - Experience in requirement analysis tools.

4. Agile Workflow for the Project

1. **Sprint Planning**
    - Define sprint goals (e.g., medicine search module, recommendation algorithm).
    - Break down user stories and prioritize tasks.
2. **Sprint Execution**
    - Development, design, and testing of features.
    - Daily stand-ups to discuss progress and blockers.
3. **Sprint Review**
    - Demonstration of completed features (e.g., “Search Medicine” function).
    - Product Owner reviews deliverables against acceptance criteria.
4. **Sprint Retrospective**
    - The team reflects on what went well and areas for improvement.

5. Example of Sprint Deliverables

Sprint	**Deliverable**	Roles & Responsibilities
Sprint 1	User registration and authentication	Backend Dev, Frontend Dev, QA

Sprint 2	Medicine search and filter functionality	Backend Dev, Frontend Dev, UI/UX
Sprint 3	Similar formula and brand recommendation module	Backend Dev
Sprint 4	Shopping cart and payment gateway	Backend Dev, QA
Sprint 5	Order tracking and delivery management	Backend Dev, UI/UX, QA

6. Communication and Collaboration Tools

- **Jira / Trello** – Sprint planning and backlog tracking
- **Slack / Microsoft Teams** – Daily communication
- **Figma** – UI/UX collaboration
- **GitHub / GitLab** – Version control
- **Zoom / Google Meet** – Sprint review meetings

7. Conclusion

The success of the **CureHub Website** depends on a well-structured **Agile team** with clearly defined responsibilities and required skill sets. Each member plays a vital role in ensuring user satisfaction, compliance with pharmaceutical standards, and a seamless online shopping experience.
Through iterative development, continuous feedback, and collaborative teamwork, the Agile approach ensures that the system evolves according to user needs and business goals.

Name of the student: Om Wadhwani			
Roll no: 58		**Tutorial no:** 07	
Title of the practical: Case study on International Project.			
DOP: 21/11/25		**DOS:** 28/11/2025	
CO Mapped:	**Po Mapped:**	**Faculty Signature:**	**Grade:**

Aim: Case study on International Project - **GlobalPay Connect**

Theory:

1. Introduction

Managing international projects has become increasingly common as organizations expand across borders. These projects involve distributed teams that work collaboratively despite differences in time zones, languages, cultures, and work habits. Agile methodologies—originally designed for small, co-located teams—are now widely adapted to support international, distributed work environments. This case study focuses on the implementation of Agile Project Management for **"GlobalPay Connect"**, an international fintech integration project involving teams from **India, Germany, and the United States**.

The project aimed to develop a secure payment gateway that supports real-time international transactions and complies with diverse regional regulations. The duration was 9 months, and the project followed **Scrum** as the primary Agile framework.

2. Project Background

2.1 Project Name

GlobalPay Connect – International Real-time Payment Gateway System

2.2 Objective

- To build a scalable payment gateway supporting **cross-border transactions**.
- Ensure compliance with **EU GDPR**, **Indian RBI digital transaction norms**, and **US FINRA guidelines**.
- Deliver the system in **incremental releases** allowing early feedback from global clients.

2.3 Participating Countries and Teams

Country	Role	Key Responsibilities
India (Bangalore)	Development Team	Core backend, APIs, QA
Germany (Berlin)	Product Owner + Compliance Team	Requirement gathering, GDPR compliance
USA (San Francisco)	UX/UI Team + Security Experts	Designing user interface, API security, penetration testing

2.4 Stakeholders

- International Finance Clients
- Internal Executive Board
- Regulatory Authorities
- End Users (Merchants and Customers)

3. Agile Framework Used: Scrum

The project followed **Scrum** due to its iterative nature and adaptability. Each Sprint lasted **3 weeks**, including planning, development, review, and retrospective. All communication primarily happened through **video conferences**, **Jira**, and **Slack**.

Key Agile Ceremonies:

- **Sprint Planning:** Conducted in overlapping time windows across time zones.
- **Daily Scrum:** Each team held regional stand-ups; one global sync was held twice a week.
- **Sprint Review:** Live demo with global stakeholders.
- **Retrospective:** Focused on communication and coordination challenges.

4. Agile Project Team: Responsibilities & Qualifications

Team Composition

Role	Member Location	Key Responsibilities	Required Qualifications
Product Owner (PO)	Germany	Defines product vision, manages backlog, prioritizes features	Experience in fintech, regulatory knowledge, strong communication
Scrum Master (SM)	India	Facilitates Agile practices, removes blockers, ensures smooth flow	Scrum certification, cross-cultural communication
Development Team (8 members)	India	Backend, API development, integration	Strong programming skills, CI/CD knowledge
UX/UI Designers (3 members)	USA	Wireframes, user interface, usability testing	Creative design skills, knowledge of design tools
Security Team (2 members)	USA	API security, encryption, penetration testing	Cyber-security expertise
Compliance Experts (2 members)	Germany	Ensure GDPR, FINRA, RBI compliance	Legal + technical background
QA Team (3 members)	India	Testing, automation, bug reporting	Test automation, Agile QA practices

5. Project Execution Using Agile

5.1 Requirement Gathering

- The German PO conducted workshops with international clients.
- Requirements were split into **Epics**, **User Stories**, and **Tasks**.
- Compliance needs were added as **non-functional requirements (NFRs)**.

5.2 Sprint Structure

Each sprint produced a **potentially shippable increment**. The workflow:

1. **Sprint Planning** – team selects user stories from backlog
2. **Development + Continuous Integration**
3. **Testing (manual + automated)**
4. **Security review**
5. **Sprint demo**

5.3 Tools Used

Purpose	Tool
Task tracking	Jira
Communication	Slack, Zoom
Code versioning	GitHub
Design prototype	Figma
Documentation	Confluence

6. Challenges Faced in International Agile Project

6.1 Time Zone Differences

- India, Germany, and USA had limited overlapping hours.
- Solution: Flexible work hours + recorded stand-ups for asynchronous updates.

6.2 Cultural Differences

- Variation in communication styles and decision-making patterns.
- Solution: Cultural sensitivity workshops + explicit communication protocols.

6.3 Language and Documentation Issues

- English was used globally, but accents and documentation clarity caused misunderstandings.
- Solution: Standard templates in Confluence and detailed acceptance criteria.

6.4 Compliance Conflicts

- Different countries had conflicting financial and privacy regulations.
- Solution: Compliance team created a **unified regulation compatibility matrix**.

6.5 Coordination Across Distributed Teams

- Difficult to align design (USA) and backend (India).
- Solution: Shared Jira boards, integrated early prototypes.

7. Key Agile Practices That Helped

7.1 Incremental Delivery

- Stakeholders could see working product every 3 weeks.
- Feedback loops minimized rework.

7.2 Daily Regional Stand-ups

- Helped maintain clarity despite time zones.

7.3 Definition of Done (DoD)

Included:

- Code completed
- Tested (unit + integration)
- Security review
- Compliance approval
- Documentation updated

7.4 Cross-functional Teams

- Allowed complex features like security, compliance, and UX to evolve simultaneously.

8. Final Outcomes

8.1 Successful Delivery

- Delivered in **9 months**, within scope.
- MVP launched in Europe first, then extended to USA and India.

8.2 Enhanced Collaboration

- Teams became efficient in asynchronous Agile practices.

8.3 Product Achievements

- Real-time transactions under 4 seconds
- Fully compliant with GDPR, FINRA, RBI
- Supports 3 international languages

8.4 Lessons Learned

- Clear communication is essential in international teams.
- Agile must be adapted—not copied—to fit distributed environments.
- Time zone constraints must be addressed early in planning.

9. Conclusion

The **GlobalPay Connect** project demonstrates that Agile methodologies are highly effective for international software projects when carefully adapted for distributed team environments. Success was driven by structured communication, cultural awareness, early stakeholder involvement, and disciplined Scrum practices. Despite challenges like time zone differences and compliance complexities, the Agile approach enabled incremental value delivery, rapid feedback, and global team alignment, resulting in a secure and scalable international payment system.

Name of Student : Om Wadhwani			
Roll Number : 58		**Lab Assignment Number :** 08	
Title of Lab Assignment : Identify the conflicts and stress involved in the Project undertaken			
DOP : 28/11/2025		**DOS :** 5/12/25	
CO Mapped :	**PO Mapped :**	**Faculty Signature :**	**Marks :**

Aim - To Identify the conflicts and stress involved in the Project undertaken

Title - To Identify the conflicts and stress involved in the Project undertaken

Description -
Projects—regardless of industry—often involve multiple stakeholders, changing requirements, deadlines, and resource constraints. These factors create both **conflicts** and **stress** for the project team.

Conflicts generally fall into two main categories: task-oriented (issue-focused) and people-oriented (interpersonal).

Schedules and Priorities: Disagreements over task deadlines, project timelines, and which tasks take precedence are a primary source of conflict.

Resource Competition: Conflicts often arise from the competition for limited resources such as budget, equipment, facilities, or skilled personnel.

Roles and Responsibilities: Ambiguity in who is responsible for what, unclear lines of authority, or overlapping duties can lead to significant friction and lack of accountability.

Scope and Goals: Conflicts can stem from poorly defined project scope, unclear objectives, shifting requirements, or stakeholders having different visions for the project's outcome (scope creep).

Personality Clashes and Work Styles: Differences in work ethics, communication styles, egos, or cultural backgrounds among team members can lead to interpersonal conflicts that harm team cohesion.

Technical Opinions: Disagreements among experts about the best technical approach or solution can be a source of tension.

Communication Barriers: Ineffective, untimely, or miscommunication of information can lead to misunderstandings and disputes.

Project managers and teams experience significant stress due to the demanding and high-pressure nature of project work.

Unrealistic Deadlines and Time Pressure: Tight or unachievable deadlines are a major source of stress for both project managers and team members.

Work Overload: An excessive volume of tasks and responsibilities can lead to burnout and reduced productivity.

Lack of Control: Project managers and team members can feel stressed when they have limited authority or influence over key project decisions, such as resource allocation or scope changes.

Stakeholder Expectations: The pressure of managing and meeting the diverse, and sometimes conflicting, expectations of various stakeholders (clients, senior management, team members) is a significant stressor.

Role Ambiguity: Unclear expectations regarding one's role and responsibilities can cause tension, frustration, and anxiety.

Inadequate Support: A lack of support from senior management or team members can increase a project manager's feeling of isolation and stress.

Risk and Uncertainty: The inherent uncertainty in projects, including unforeseen risks, technical issues, or unpredicted external disruptions, creates a constantly evolving, high-pressure environment.

Budget Constraints: Managing projects within strict budget limits and dealing with potential cost overruns is a constant financial stressor.