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Arab Open University - Saudi Arabia (Jeddah Branch)

Faculty of Computer Studies

Information Technology and Computing Department

Web-Based Freelancer Request Management Platform

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Prepared for : TM471, Final Year Project,

Supervisor: *Dr. Muhammad Jawad Ikram*

Declaration of Ownership

I hereby declare that this dissertation named: Web-base Freelancer Request Management Platform is a result of my own ideas researched and well thought out. I can confirm that I have not stolen ideas from any report or any university before.

I further declare that every tool I have used, all sources of information and materials used to reference, research and for citation are mentioned in the acknowledgements following carefully the style described by Arab Open University

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Date: ***15 November 2025***

Abstract

Digital Freelancers from Asia in general frequently struggle with inefficient client request management, relying on general platforms like Email, WhatsApp This results in unstructured request management with constant back-and-forth communication and wasted time. A problem of this level has grounds for optimization, this issue costs freelance time and money, which can be spent behind business growth.

The solution mentioned in this report is a **Web-based Freelancer Request Management Platform(WBFRMP)**, a targeted solution to improve CRM. The core functionality of it allows freelancers to craft personalized, service specific forms (e.g. asking for length of a video for an editor), for clients to submit detailed service specific orders asynchronously that reaches the freelancer immediately.

The system reduces repetitive behavior and improves requirement accuracy. Employing Python/Java and a professional dashboard, this platform is specialized for order management, differentiating it from general-purpose forms we are used to seeing

Acknowledgments

First of all as a courtesy I wish to thank Allah(SWT) for keeping me in good health, AOU for giving me an opportunity to embark on this project, and to the esteemed Project Supervisor Dr.Mohammad Jawad Ikram for his experienced guidance, clarifying the details of the report as well as going out of his way to answer questions and clear doubts on the topics and format.

A special thank you to my friend Salman Mojumder, my business partner, who has helped me work with him to identify this underlying problem in this line of work that inspired the idea within me.

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And as usual thank you to google search engine for any and all inquiry regarding this project.

Finally, I owe a profound thank you to my family for supporting me for carrying this out throughout the course of this project.

Tools used -

Part 1 - Google Docs, Google Sheets, GanttProject

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EPILOGUE(PART 1)

CHAPTER 1: INTRODUCTION

1.1 Report Overview

This report dissertation details the design, implementation and the overall evaluation of a ***Web-based Freelance Request Management Platform(WBFRMP)***. Starting with addressing the inefficiency within not growing digital freelancers. The common mistakes and complacency in unstructured general purpose communication for client requests. This introductory chapter opens up and goes into the depth about the core issue, the specialized solution, outlining clear objectives, setting a foundation for the following chapters to lead off of.

1.2 Problem Statement

The Insurgence of digital freelancers in growing global markets across the Middle East and Asia, currently rely on general purpose platforms such as email, Whatsapp, and social media direct messages to manage client service requests. This approach is common and unstructured as it leads to constant back-and-forth communication, often involving asynchronous redundant queries for missing project specifications. Proper communication with clients is vital as it is a leading challenge across many reports outlining the hardships of a freelance entrepreneur. An example of miscommunication would lead to not providing the client with service they desire, in turn leading to multiple revisions and loss of time and effort.

Recent studies of online freelancing platforms document recurring communication gaps between clients and freelancers that cause misunderstanding and productivity loss(Yoon, 2024).

When expectations aren't clearly defined or updates are inconsistent, projects can quickly go off track. Failing to communicate effectively can result in scope creep (The Upwork Team, 2025).The time spent on clarification detracts the freelancer from productive, paid work like promoting their business or fulfilling other orders. The following project is motivated by the need to replace this hindrance with a professional, structured system thereby recovering lost hours and improving requirements gathering.

1.3 Proposed Solution: A Specialized Web Platform

Structure elicitation methods such as questionnaire and forms have been proposed in requirements engineering literature as a cost-effective way to capture stakeholder needs, though they require careful UX design to avoid user drop-off(Pacheco, 2018). The Proposed solution is a niche, targeted web-based application designed specifically for digital freelancers (eg. Video editors, graphic designers, digital marketers etc). The platform allows the freelancer to define a custom, domain specific request for each service they offer.

An academic paper reports that without domain-specific modeling and tooling,efforts to build domain-specific applications end up with increased manual effort and maintainability issues.(Ozan Ozkan, 2025)

The WBFRMP is engineered precisely for this reason, to fill this gap. It offers specialized data intake capabilities, such as fields for dimensions or revision limits and is designed around an asynchronous order submission mechanism. Meaning clients can open links to the specialized form and submit their request at their convenience without really bothering the freelancer if they are busy. This request is then managed into a dedicated notification-driven dashboard.

1.4 Project Aims and Objectives

The complete aim of this project is to create and implement a proper, functional order management platform that improves efficiency for digital freelancers

The key objectives are:
1 - To design a backend architecture and a robust database to create a system capable of capturing customized form data and securely storing it.

2 - To develop a dynamic frontend interface allowing freelancers to create specialized forms and share them with their clients.

3 - Building a dashboard and notification system that reduces the number of clarifying interactions per order from estimated 3(my personal experience) to one or less during delivery.

4 - Ensuring the client-side submission process is seamless, requiring no account creation, reducing as much friction as possible

1.5 Project Deliverables and Scope

The outcome of this project will be split into 2 key categories: Process deliverable(documentation and analysis) and product Deliverables(the functional software).

1 - Process Deliverables: These will be artifacts created during the analysis and design phases

- Requirements Documentation: Outlining the functional and non-functional requirements (Chapter 3)

- System models: Diagrams like UML use case diagram, activity diagram, sequence diagram.
- Project plan: Complete WBS and timeline demonstrating schedule and work management

2 - Product Deliverables: The core deliverable is the fully functional and operational WBRMP prototype.

- Complete code for the system
- Functional user interface, enabling freelancer registration, custom specialized form creation, client order submission and a dedicated order tracking dashboard

The scope only wishes to fulfill the core functionalities.The quality of life changes mentioned in the proposal such as the payment integration, mobile app support and AI support will not be focused on, since they lie outside the scope of this project.

1.6 Constraints, Limitation and Target Customer

The project is subject to several constraints that impact the design of it. We will start by outlining the boundaries by identifying our target customer and who we are making it for.

- Target Customer: The system will be geared towards satisfying digital freelancers(graphic designers, copywriters) and their clients within the digital service economy.
- Technical Limitation:Using mainly the resources available and creating a functional and efficient system.

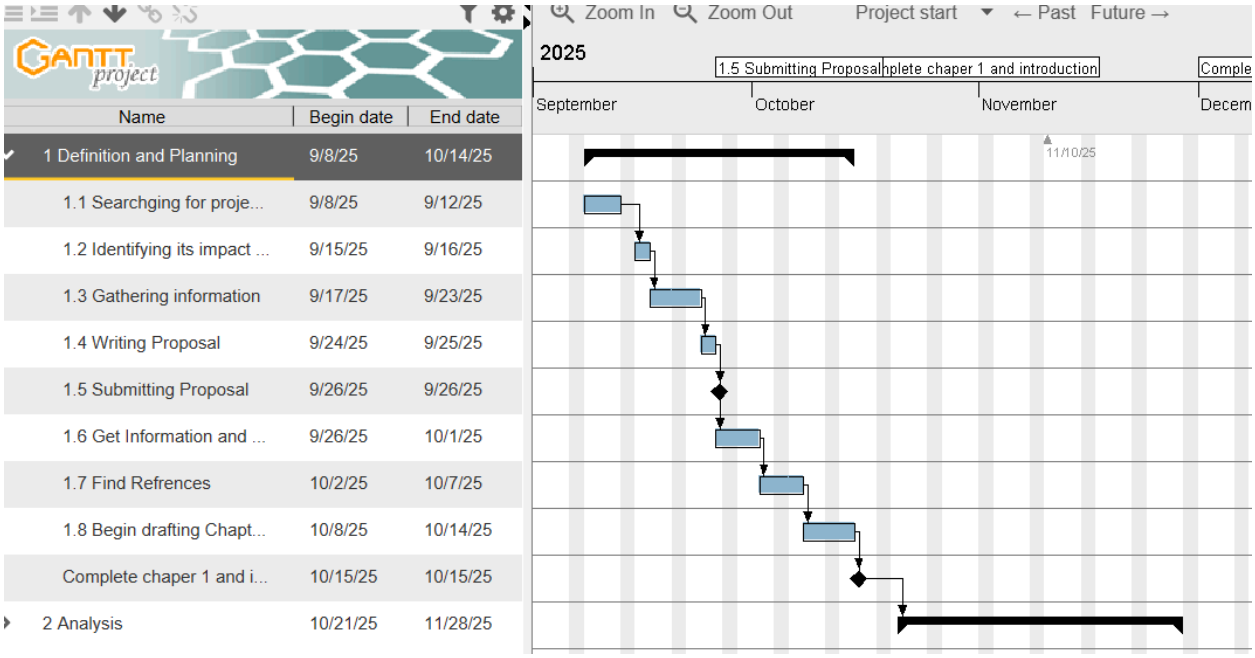
1.7 Project Plan Overview

Work Breakdown structure

Chapter	Task no.	Task description	Duration (day)	Start date	Progress
Definition And Planning 1	1.1	Searching for project idea	7	7/09/2025	Done
	1.2	Identifying its impact and credibility	4	14/09/2025	Done
	1.3	Gathering Information	7	18/09/2025	Done
	1.4	Writing up proper proposal	2	25/09/2025	Done
	1.5	Submitting proposal	2	27/09/2025	Done
	1.6	Get information and plan around it	8	2/10/2025	Done
	1.7	Find references for problems and solutions	6	10/10/2025	Done
	1.8	Begin drafting chapter 1	5	16/10/2025	Done
		Total	**41**		
Analysis 2	2.1	Finding similar systems	2	21/10/2025	Done
	2.2	Drafting chapter 2	3	24/10/2025	Done
	2.3	Specifying system requirements	2	27/10/2025	Done
	2.4	Choosing suitable diagrams	1	29/10/2025	Done
	2.5	Finalizing on proper development approach	3	30/10/2025	Done
	2.6	Drafting chapter 3	5	2/11/2025	Done
	2.7	Finish drafting(add references and page numbers)	10	7/11/2025	Done
	2.8	Submitting Final Report Draft	7	17/11/2025	Done
	2.9	Preparing for presentation	5	25/11/2025	Done
		Total	**38**		

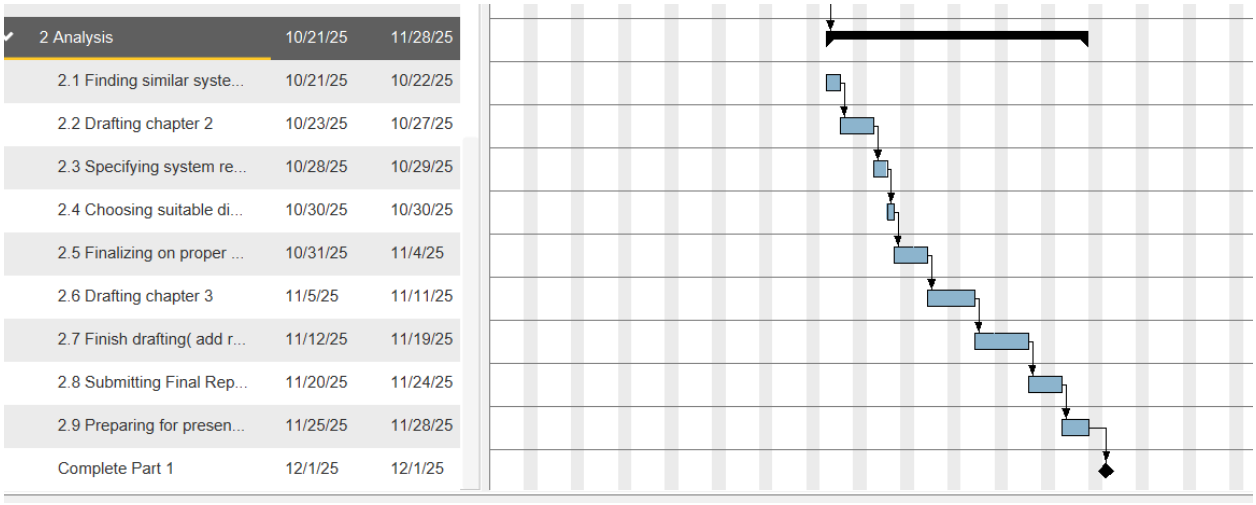
Gantt Chat - *(Disclaimer dates and durations slightly changed due to the application not allowing me to add time in the weekends)*

1- Description and Analysis



Name	Begin date	End date
1 Definition and Planning	9/8/25	10/14/25
1.1 Searchging for proje...	9/8/25	9/12/25
1.2 Identifying its impact ...	9/15/25	9/16/25
1.3 Gathering information	9/17/25	9/23/25
1.4 Writing Proposal	9/24/25	9/25/25
1.5 Submitting Proposal	9/26/25	9/26/25
1.6 Get Information and ...	9/26/25	10/1/25
1.7 Find Refrences	10/2/25	10/7/25
1.8 Begin drafting Chapt...	10/8/25	10/14/25
Complete chaper 1 and i...	10/15/25	10/15/25
2 Analysis	10/21/25	11/28/25

2 - Analysis



2 Analysis	10/21/25	11/28/25
2.1 Finding similar syste...	10/21/25	10/22/25
2.2 Drafting chapter 2	10/23/25	10/27/25
2.3 Specifying system re...	10/28/25	10/29/25
2.4 Choosing suitable di...	10/30/25	10/30/25
2.5 Finalizing on proper ...	10/31/25	11/4/25
2.6 Drafting chapter 3	11/5/25	11/11/25
2.7 Finish drafting(add r...	11/12/25	11/19/25
2.8 Submitting Final Rep...	11/20/25	11/24/25
2.9 Preparing for presen...	11/25/25	11/28/25
Complete Part 1	12/1/25	12/1/25

1.7 Gantt Chart

1.8 Chapter Summary

This Chapter introduces the reader into:

- the challenges of unstructured communications problems that come between the freelancer and their client
- solution being a specialized web platform in which freelancers can create personalized forms and have their clients fill them up
- objectives and aims the project is supposed to cover
- Covers scope and target customer the project is targeted towards
- Breaks down the timeline in how the work is carried out

The upcoming chapter will be a literature review and a comparative analysis on how the system chosen for this project differs from others similar to it and goes into depth why it is more beneficial.

CHAPTER 2: CRITICAL REVIEW AND ANALYSIS

2.1 Chapter Overview and Rationale

The following will be going over in detail with proof from reports across academic and industry experts on how their analysis indirectly all lead to supporting the idea of the Web-Based Freelancer Request Management Platform. Critically breaking down every aspect mentioned in chapter 1 and creating a solution as to why this is a reasonable and justifiable approach to an existing problem.

The latter half of this chapter is more so comparative analysis that goes over having this proposed solution go up against different existing and successful alternatives, and proving how unique the system is against the rest.

2.2 Theoretical Context

The need for a structured platform is not an intuitive observation but rather a direct response to the problem this report will cover, mainly the communication failures documented in distributed and remote work environments.

2.2.1 Theoretical and Conceptual Foundations

The freelance relationship is fundamentally built on asynchronous communication, where clients and service providers are rarely ever online to discuss work simultaenously.

A well documented Harvard study goes on to state that even a one-hour increase in temporal distance is associated with an 11% drop in synchronous communication. (Micheal Blanding, 2024)

Clarifying that asynchronous communication is what drives the freelance market, especially for digital freelancers working in the East aiming for international clients mainly in the western region.

This leads freelancers to rely on asynchronous communication, and is further encouraged and proven to be the optimal solution by a freelancer dominating market, Upwork.

They suggest on setting expectations for responses times, using asynchronous platforms, and being explicit about working hours(Upwork Team, 2025)

At the core of most research on this topic they all promote working asynchronously where Email is seen as the primary tool for communication.

Email has proven to be a great tool in this regard, but this too has problems off its own. A few studies show that Emails increase the risk of miscommunication and mistakes(Vartika Kashyap, ProofHub, 2024)

It also does not help when most remote workers approximately 88% of them reported inconsistent practices while 83% felt overwhelmed by email (Sara Bean, Workplace Insight, 2015)

This only leads people to rely on messaging apps where communication is informal, and when it is informal coordination suffers because of communication bricolage people cobble together informal and ad hoc communication methods (Ronnie E. de Souza Santos, Paul Ralph, arXiv, 2022)

Overreliance on written communication leads to misinterpretation because of absence of tone and non-verbal cues according to another journal study. (Marianne Foster, workfromhomejournal, 2025)

It should be easy to assume that most freelancers, especially the ones starting off, have little luxury in guiding their client to a video call or meeting, due to a plethora of reasons.

This all guides them back to asynchronous communication, where getting structured data through non-verbal means proves to be challenging, that leads us now to the proposed solution.

2.2.2 Role of structured intake in CRM

The objective goal of all good communication is the intake of actionable data, but collecting any ambiguous client data would be a fruitless endeavor, the priority is for securing structured data that clearly outlines a proper solution to the problem with clarity.

Multiple research claims it to be true, on the fact that SMEs gain measurable benefits from structured data……Structured capture reduces ambiguity that otherwise causes rework and lost time (Mpho Kgakatsi, 2024)

Another says High-quality first-party data is a necessary precursor to analytics, automation and scalable workflows. Poor structure is a major barrier to adopting CRM/automation affordances.(Simon, Imke and Jacomier, 2022)

This evidence proves that operational growth for any SME or freelancer is correlated on the quality of data they receive.

Therefore, each and every data scraped by the freelancer must push them towards growth as data lacking clear structure poses a barrier to growth.

Hopefully, it is now clear that good data intake is paramount to SMEs and freelancers in general and we have already covered in section 2.2.1 that a regular informal chat and email would not be able to provide a freelancer with the structured data intake and clarity they would like.

This analysis concludes that an ideal intake mechanism must provide three main characteristics: high data specificity, less client friction and integration with a management dashboard. These requirements set the stage for review of existing solutions in the market.

2.2.3 Requirements Engineering and Data Capture Precision

The next step to take would be to make sure there exists a data intake channel that would turn the client's needs into structured data. Luckily this is mentioned in

a Google study. First -party data is the most reliable input for personalization and lifecycle automation when properly captured and governed(Anonymous,2020)

A form is cheap, easy to implement and cost effective in turning data effective, containing characteristics that benefit SMEs and freelancers.

A blog reads, “small service firms benefit most from CRMs that are easy to adopt with templates for proposals, invoicing and automated reminders tied directly to intake data.” (Alicia Schneider , 2024)
However, the service request form, in the context of this project must be viewed objectively and not just as a data collection tool but also as a critical requirements elicitation artifact.
Questionnaires/ structured forms are cost-efficient, scalable and produce standardized, analyzable data compared with interview or ad-hoc email threads… Systematic reviews and method comparisons repeatedly find that forms(when well-designed) are the fastest way to gather large numbers of consistent data points(Dalitso Kuphanga, 2024)

Errors are significantly less expensive to rectify the earlier they are identified in the project lifecycle or in this case the CRM lifecycle.

Studies show eros caught in requirements/analysis cost orders of magnitude less to correct than defects found after deployment. This “cost-to-fix” curve has been revisited and supported by later empirical (NASA,Menzies et al.) confirming that early, precise requirements and early validation reduce total project cost.(Boehm, B.W, 1981)

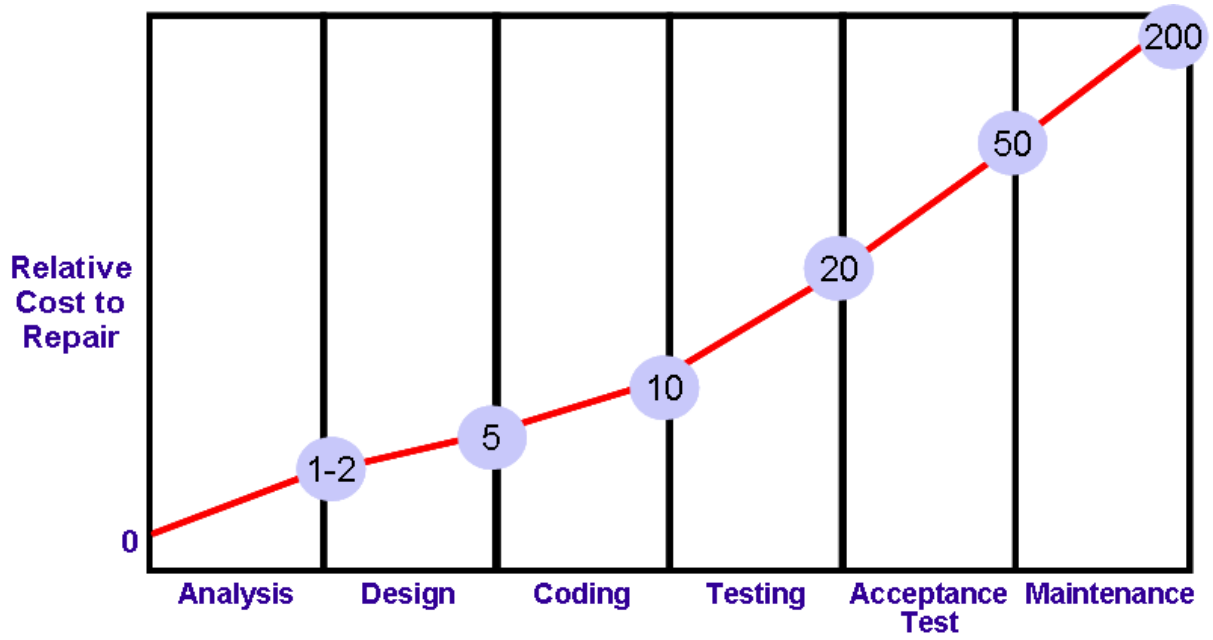


Figure 2.2.3 Cost-to-fix curve (Boehm,2001)

Due to scarcity of data for SMEs and freelancers this cost is a higher burden to pay ... .Risk mitigation therefore centers on catching requirement misunderstandings as early as possible.(Jim Bird, 2013)

Many other literature reports and reviews build on this topic and identify poor requirements elicitation, vague scope and missing acceptance criteria as top contributors to project failure or challenge.(Azham, H. et al., 2016)

The ability for freelancers to create customized forms with domain-specific fields, forces the client to conform to the project constraints before the work begins, minimizing scope creep, a leading challenge amongst freelancers. Domain-specific questions produce higher validity and better actionable data than global/generic questions.(MM Ward, 2015)

In conclusion the foundation strongly supports the need for a highly customizable, specialized intake system over any generic off-the-shelf solution.

2.3 Review of Related Work

This following section will not critically review the software against commercial solutions categorized by their purpose, mainly because the project tends to have elements from different software categories whilst not having a direct competitor.

2.3.1 Against General-Purpose Form Builders

The goal of general-purpose form builders(GFPBs) like Google Forms, Typeform is to simply be highly accessible and effective for broad data collections tasks, such as surveys, customer feedback, RSVPs, etc. The core defining feature for these form builders is in their name-general. Here's a few points to emphasize on it.

1 - Failure in Domain-Specific Customization: GPFBs offer a wide array of field types(short answer, radio options, Likert scale, multiple choice, long answer etc.) as they are forced to appeal to a broad range of people they lose the capacity for domain-specific constraints. Let's take an example, video editors might require the client to upload the raw footage they want edited, this simply wouldn't be feasible in a regular GPFBs.Basically, they fail in the core requirement of using form as a precise requirements elicitation tool, doing little to clear the ambiguity of the informal communication methods.

2 - Friction: As standalone tools GPFBs processes halt upon submission. Being this disconnected only invites friction, for one or two clients this may be manageable, but for 3-4 along with the fact most freelancers are students and have little time to spare, forces them to perform unnecessary data transformation which is an inefficient use of their scarce time.

3 - Cost of Change: The lack of a centralized dashboard means the freelancer's first interaction with the project remains an informal email notification, rather than a structured dashboard view that immediately flags missing or ambiguous criteria.

In summary, GPFBs offer a wide array of useful tools that help for a plethora of reasons but fail to be domain specific and useful for collecting precise data and requirements necessary to function as a professional request management platform.

2.3.2 Against Project Management Software

Specialized project management tools (PMTs) like Trello and Asana, are all focused on collaboration, resource allocation, centralizing task management and risk management, they serve a number of challenges with ease that help with work but that's also where its problems lie.

1 - User focus: These platforms were built for agencies and corporate work flows, revolving around multi-person collaboration, which happens to be a fundamental mismatch for this project's aim..

Freelancers are usually a single person team, dealing with external clients not multiple teammates.
Comparing it to the WBFRM it is clear the platform built is to serve the freelancer, and one simple frictionless experience for the client.
PMTs, although very beneficial to freelancers, are not fit for data intake but rather could be integrated with the WBFRM to create a seamless workflow.

2- Complexity & Overhead: PMTs add unnecessary mental load for both freelancer and client. As it causes both client and freelancer to register and work together if they wish to.
Clients usually hire freelancers to do the work for them, not to do it with them.This is excessive and would be a major cause in loss of business.
3- **Expensive:** Due to most PMTs being collaborative for an enterprise only means they are pricey.
WBFRMP, being specialized, extremely niche only means all of its features will be sure to serve the freelancer help their client achieve their vision and nothing

more. Therefore it is of low cost, whilst being high-value for a small margin of digital freelancers.

PMTs will always be undoubtedly useful for teams who collaborate and work together, but it does not serve the market of SMEs and independent freelancers who wish for a smooth frictionless onboarding system for their clients at a cheap cost.

2.3.3 Against Proper Freelance Platforms

WBFRMP is established to help freelancers and hence it is common to compare it to other popular freelancer platforms(FPs) such as Fiverr and Upwork, but this is a fundamental mismatch from the start as they both serve completely different purposes.

FPs help freelancers find clients not manage them, they are created for the core purpose of, promotion, browsing and reviewing. They do not prioritize domain-specific intake flows, efficient back and forth between freelancer and existing clients.
A freelancer can use both FPs to first promote themselves and bring in clients before using WBFRMP to help deliver on their promise.

2.4 Chapter Summary

The in-depth theoretical literature review analysis as well as the comparative analysis reveals critical and functional challenges

The Web-based Freelancer Request Management Platform (WBFRMP) is justified as a novel solution that bridges the gaps by providing a specialized, frictionless intake tool, low in cost fit for the digital freelancer market.

CHAPTER 3: REQUIREMENTS AND ANALYSIS

3.1 Chapter Overview

A short refresher is that the overall project objective is to have the system provide a specialized, integrated and frictionless client intake solution. To tackle all of these properly Functional and Non Functional requirements come into play. Furthermore, this chapter defines the necessary technical environment and establishes the strategy for testing and evaluating the system's success against these defined objectives.

3.2 Functional Requirements (FRs)

Functional Requirements describe the behaviour of the system, the specifications of the system's functionality, the actions that the system must take, derived from the fundamental purpose of the product.

3.2.1 Freelancer Requirements (System and Freelancer side)

ID	Requirement Description	Priority	Fit Criterion
FR-TF.01	The System must allow the freelancer to create, edit and publish multiples custom intake forms	**High**	Ability to create and modify and save form with minimum 5 custom fields
FR-TF.02	The System must support definition and limitation of specific fields (text,number,data)	**High**	Custom fields enforcing validation rules
FR-TF.03	System must produce a unique public URL that can be easily copied and share	**High**	URL generation is instant and accessible without authentication
FR-BF.01	System must provide a secure dashboard for viewing all client requests for the freelancer	**High**	Submissions are viewable in sortable, paginated table format
FR-TF.04	System must send a real time email notification to the freelancer upon request submission	**High**	Email alert within 60 seconds of client submission
FR-TF.05	The freelancer must be able to export submission data for integration	**Medium**	Successful export of all fields in standard, machine-readable format
FR-BF.02	Freelancer must be able to customize and personalize their form's	**Medium**	Logo and custom colors available for public view

3.2.2 Client Requirements(Client Side and Form submission)

ID	Requirement Description	Priority	Fit Criterion
FR-TC.01	The client must be able to access and complete the form using the public URL without signing up	**High**	Form loads and submits successfully for an unauthenticated user
FR-TC.02	The client must be able to upload the relevant source files via the form	**High**	Files up to 50MB are successfully uploaded and linked to the submission
FR-TC.03	Upon successful submission, the client must receive an on-screen confirmation message	**High**	Clear confirmation message is displayed included submission ID
FR-TC.04	The form must be fully accessible and usable across various devices	**High**	Form layout and inputs are functional on a standard mobile browser

3.3 Non-Functional Requirements (NFRs)

Non-functional requirements are qualities that the system should have: such as being secure, fast , usable or maintainable.

ID	Requirement Description	Category	Fit Criterion
NFR-01	The public form shall load under 3 seconds under normal network condition	**Performance**	95% of form loads complete in <3 seconds
NFR-02	All submitted data is stored in database shall be secured and accessible only by the owning freelancer	**Security**	Data separation is verified through security rule audits
NFR-03	Freelancer authentication shall be secured using industry standard protocols	**Security**	Freelancer accounts cannot be compromised via brute force or SQLinjection
NFR-04	The platform shall maintain a minimum up time of 95%	**Performance**	Measure monthly uptime is > 95%
NFR-05	The codebase should adhere to clear documentation and modular design to add future feature additions	**Maintainability**	All major components are independently testable and documented

3.4 Hardware and Software Requirements

The WBFRMP will need a development environment and production area to operate

3.4.1 Hardware Requirements

Component	Specification	Rationale
Processor	2 vCPUs (Virtual CPUs)	Processing power needed for handling light to traffic and queries. One for Client end other for freelance end
Memory (RAM)	4 GB	Required to run the operating system, web server, backend application, and database effectively.
Storage	80 GB SSD	High-speed storage is critical for meeting performance goals (NFR-01) and storing the database and file uploads (FR-C.02).
Network	Dedicated Public IP	Essential for stable access to the public-facing forms and the freelancer dashboard.

3.4.2 Software Requirements

Category	Component	Rationale
Backend Language	Python/Java	Selected based on initial proposal flexibility, offering mature frameworks for web development and scalability.
Framework	Flask/Django (Python) or Spring (Java)	Provides necessary structure for implementing logic, authentication and API endpoints.
Frontend Languages	HTML5, CSS3, JavaScript	Standard web technologies necessary for giving the user interface and client-side logic.
Database	PostgreSQL, SQLite	Selected for its robustness, scalability, and ability to handle the complex, unstructured JSON data required to store custom form configurations. Starting off lite
Web Server	Nginx or Apache	Required for sending requests to the backend application.
Version Control	Git	Essential for collaboration, tracking changes
Report	Google Docs	Comfortable with the operations of the system
Research	Google Search	Comfortable with the operations of the system
Tables	Google Sheets	Comfortable with the operations of the system
Project Timeline	GanttProject	Creating a proper project timeline a gantt chart for the project as requested
Diagrams	Microsoft Paint	Allowing for simple, cost-effective solution to draw a proper use case diagram
	StarUML	Variety of tools that are specified to help build the activity diagram with ease

3.5 Software Development Methodology

Given the need to adhere to academic timeline with the need to deliver a functional prototype system with core features, prioritized over others, the only main effective approach would be to take advantage of the Iterative model with an Agile mindset as the most appropriate development method

The reason for the finalization of this selection is due to developing the core functional requirements/features quite early and testing them before moving on, therefore reducing the risk of the project failure and allowing for quick adjustments based on early feedback.

The project will be broken down into small manageable cycles, ensuring each progress is measurable and aligning with time constraints.

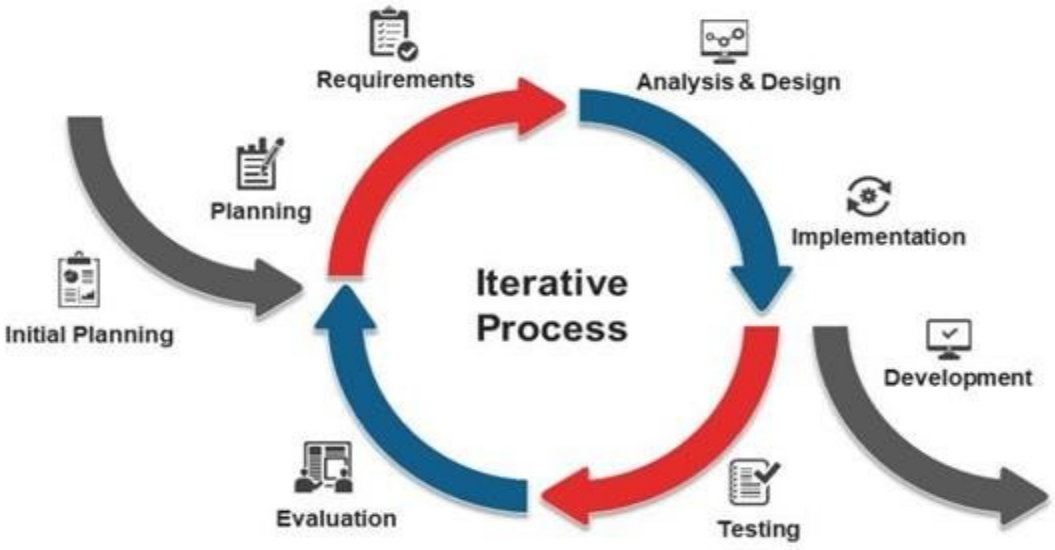
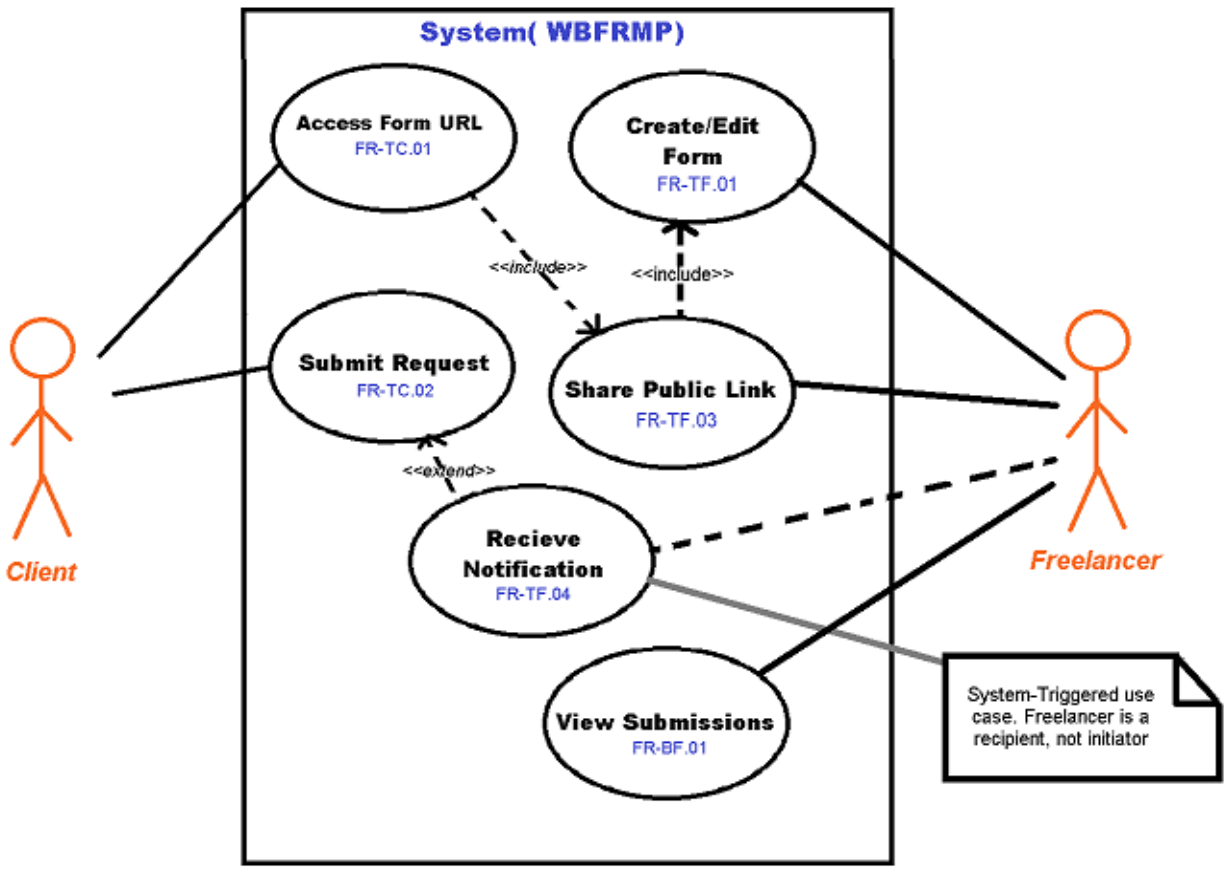


Figure 3.5.0 Iterative Process (Dr Mahdi H. Miraz, 2020)

3.6 System Analysis and Architecture

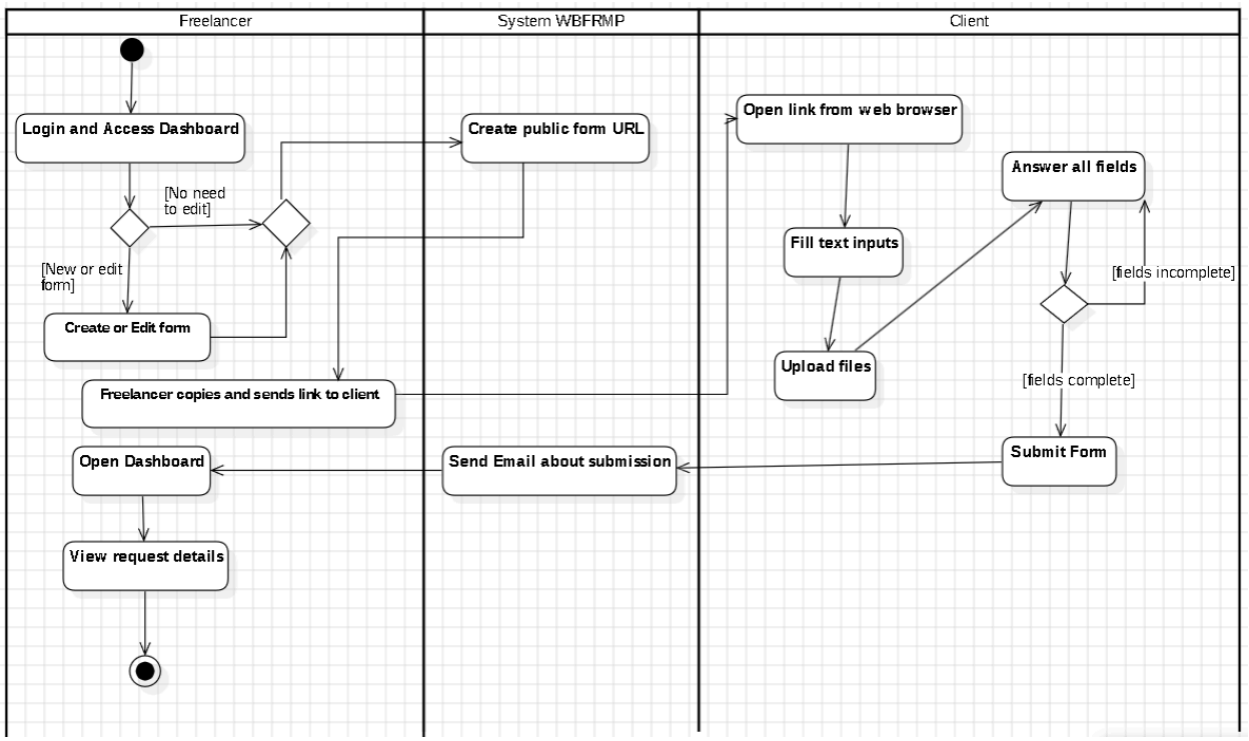
Modelling the system is used to represent the structure and behaviour and data flow in the WBFRMP visually, making sure that all of the components are structured logically, easy to understand and fits the requirements.

3.6.1 Use Case Analysis



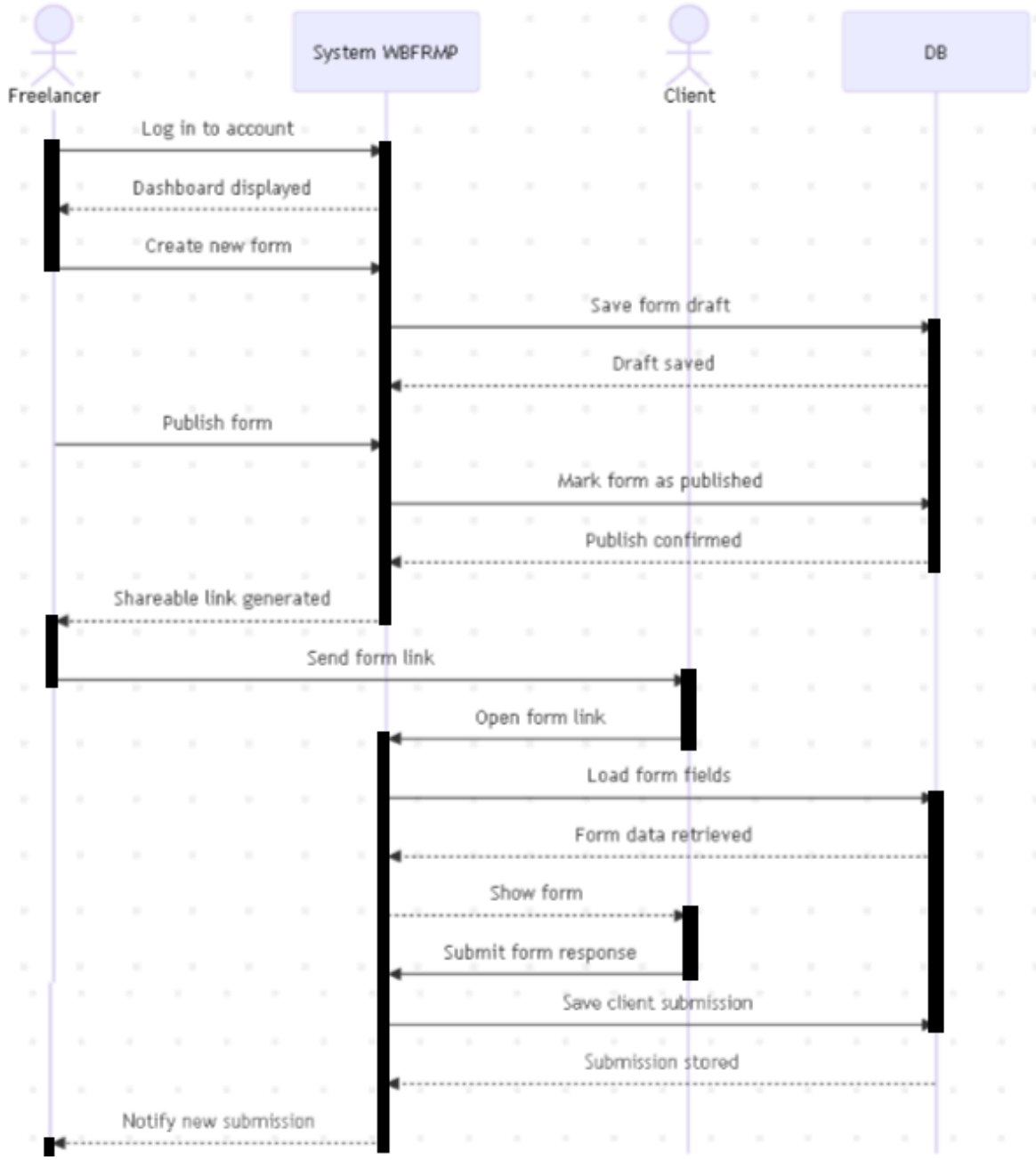
3.6.1 Use Case Diagram

3.6.2 Activity Diagram Analysis



3.6.2 Activity Diagram

3.6.3 Sequence diagram analysis



3.6.3 Sequence Diagram

3.7 Testing and Evaluation Strategy

A proper strategy for testing is key to show that the final result meets all specified requirements(FRs and NFRs).
Testing plan will be carried out as planned after the prototype is built and ready

- System Testing: Consists of checking that a complete software system performs in accordance with its requirements specification.
- Usability testing along Requirements-based testing will be key as this project depends on being helpful towards usability.
- Integration testing helps verify the flow of data between components confirming our data flows as intended shown in figure 3.6.2.
- User Acceptance Testing(UAT) can only be carried out once there is sufficient time, the key is to reach out to digital freelancers and have them test out the prototype. Black box testing might be viable in this case.

The final system will be deemed successful if all high priority functional requirements are met and the qualitative evaluation confirms the system provides a demonstrably more efficient and professional intake experience than current existing solutions.

3.8 Chapter Summary And Project Considerations

This chapter covers the complete system scope, defining it with a comprehensive set of Functional and Non-Functional Requirements. It established hardware and software requirements to carry out the project, and introduced the Iterative/agile approach to develop the software. Finally the chapter finished it off with a few

diagrams that break down the use-case of the system as well as the activity flow before giving an overview of the testing methods viable to the project.

The analysis pays attention to careful social, legal and ethical responsibilities that cover WBFRMPs design. The platform aims to empower independent digital freelancers. The legal system is designed to comply with general data protection principles.The ethical system focuses on client privacy(FR-TC.01) while caring for data accuracy(FR-TF.02) preventing miscommunication and honest service between two parties.

EPILOGUE

Glossary

- **Asynchronous communication**- Any form of communication where there is a lag between sending a message and receiving a response, meaning it does not happen in real time.
- **Communication Bricolage**- process by which group of individuals creatively recombine existing cultural products or materials to create something new often for purposes unintended by the original creator.
- **Elicitation** - Act of drawing or bringing forth information from someone. In this case requirements elicitation means drawing out the requirements required.
- **Temporal distance** - A time gap(in this case between countries).
- **First-party data**- Information that company collects directly from its customers and audiences through its own channels.
- **Likert scale**- A scale of agreement/disagreement used in surveys to find out the level of agreement with a statement
- **Scope-creep**- Uncontrolled expansion of a project's original scope after it has started
- **SMEs**- Small and Medium-sized Enterprizes aka Small businesses
- **Synchronous communication**- Real time exchange of information between two participants.

Bilbography

1.2

Yoon, D. (2024). *Design tensions in online freelancing platforms*. Proceedings of CSCW 2024.

Upwork Resources (2025). *Freelance client communication mistakes and how to fix them*. Upwork article.

1.3

Özkan, O., Babur, Ö. & van den Brand, M. (2025). Domain-Driven Design in software development. Journal/Publisher info if applicable, published online 27 June 2025.Pacheco, C. (2018). *Requirements elicitation techniques: a systematic review* (IET Research / JSE).

2.2.1

Blanding, M. (2024) *Global Talent, Local Obstacles: Why Time Zones Matter in Remote Work*.

Upwork (2025) *Tips and Tools for Managing Remote Teams and Scheduling Across Time Zones*

Kashyap V. (2024) *Remote Project Management: Email Collaboration Challenges & Solutions*.

Bean S. (2015) *Remote workers endure poor communications and working practices*.

Santos, R. E. de Souza & Ralph, P. (2022) *A Grounded Theory of Coordination in Remote-First and Hybrid Software Teams*. arXiv

FosterM. (2025) *Challenges in Remote Work and Improving Communication*

2.2.2

Kgakatsi, M.(2024) *The Impact of Big Data on SME Performance*: A Systematic Review. MDPI

Simor R., Imke de K., Jacomien G. *Data Science for Small and Medium-Sized Enterprises: A Structured Literature Review*. ResearchGate.

2.2.3

Boston Consulting Group & Google (2020) Responsible Marketing with First-Party Data(PDF) - Industry guidance on first-party data sources, quality and responsible use; good for justifying consented intake
Alicia Schneider, monday.com (2024) 5 CRMs for service business to know in 2025 (blog). - Practical overview of CRM fit for service business and features that exact matter
ResearchGate Dalitso Kuphang (2024) ‘Questionnaires in Research: Their Role, Advantages and Main Aspects’.
Boehm, B.W. (1981) *Software Engineering Economics*. Prentice-Hall
Relative Costs of Fixing Requirement Errors [Boehm 2001]
J. Bird (2013) The Real Cost of Change in Software Development
Ward, M.M. et al. (2015) ‘Domain-specific transition questions demonstrated higher validity than global transition questions’, *Journal of Clinical Epidemiology*