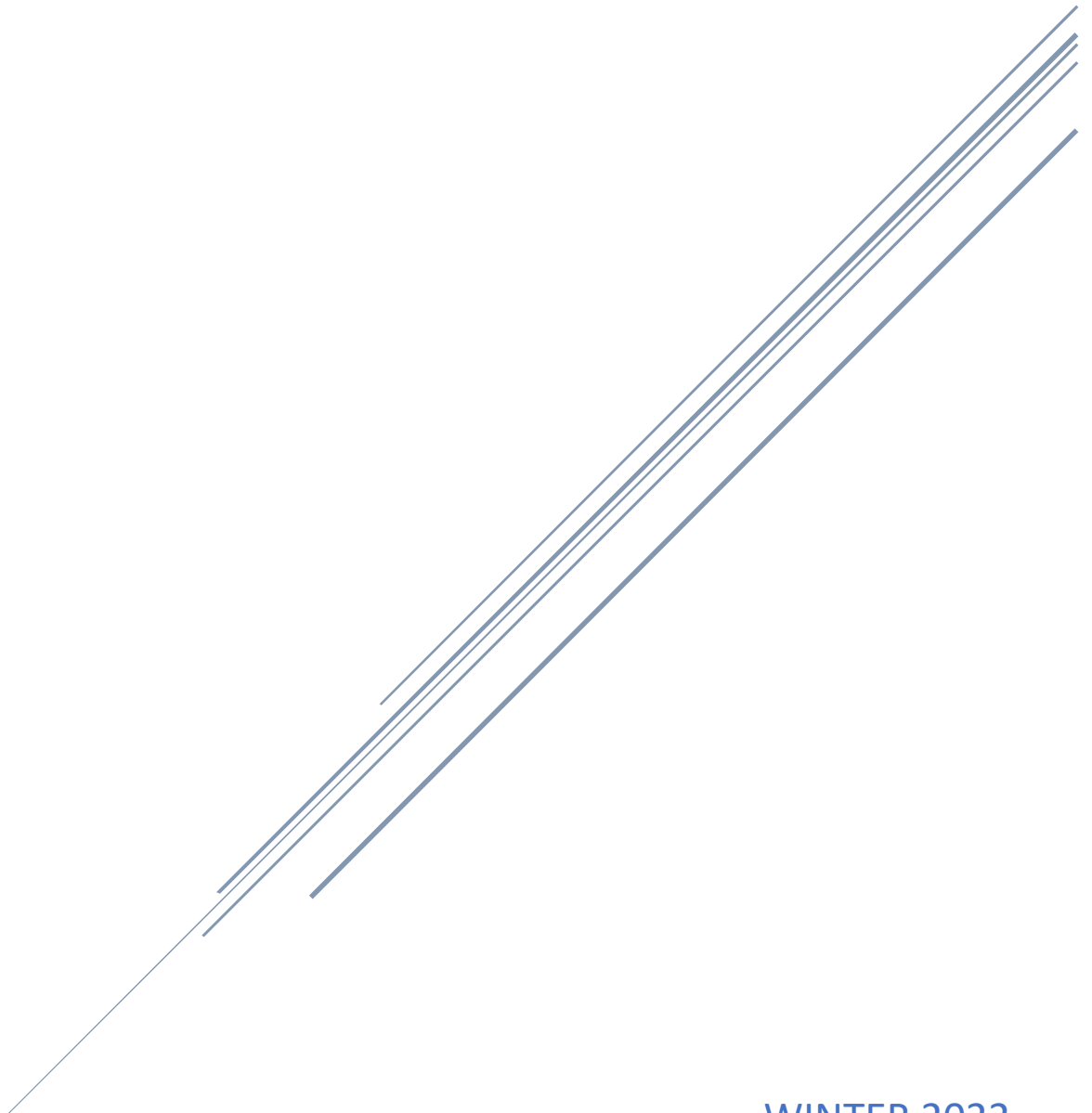


SRS DOCUMENT

SnowAway Application



WINTER 2022
COMP225 – Group 002

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April 24th, 2022

Contents

Section #1 - Introduction	1
1.1 Purpose	1
1.2 Document Conventions	1
1.3 Intended Audience and Reading Suggestions	1
1.4 Project Scope	2
1.5 References	3
Section #2 - Overall Description.....	4
2.1 Product Perspective.....	4
2.2 Product Features (Functions)	5
2.3 User Classes and Characteristics.....	5
2.4 Operating Environment	5
2.5 Assumptions and Dependencies.....	6
Section #3 - External Interface Requirements	7
3.1 User Interfaces.....	7
3.2 Hardware Interfaces	8
3.3 Software Interfaces.....	8
3.4 Use Case Table	9
Section #4 - Functional Requirements.....	10
4.2 Example Formal Use Case Description – Misconduct Report.....	12
4.3 Swim Lane Diagram – Misconduct Report.....	12
4.4 Use Case Diagram	13
Section #5 - Non-functional Requirements List	14
Appendices	16
Appendix A - Stakeholder List	16
Appendix B - Interview Questions	17
Appendix C – Class Diagrams	20
Domain Class Diagram	20
CRC Cards.....	21
Updated Domain Class Diagram	22
State Diagram #1 – Creating a Work Order	23
State Diagram #2 – Creating a User Account.....	24
Sequence Diagram – Misconduct Report	25
Party Analysis Pattern Diagram	26

SECTION #1 - INTRODUCTION

1.1 Purpose

Connecting local community members in need of snow shoveling services with community members offering snow shoveling services, in real-time, providing excellent services and job opportunities.

1.2 Document Conventions

We have used Calibri font where the text size is 11 for this document. All document sub-headings are underlined, size 13 and blue (Accent #1, Darker 25%), and main headings are sized 16 and blue (Accent #1, Darker 25%). All text highlights use a bold italic font.

Acronyms	Descriptions
API	Application Programming Interface
App	Application
GPS	Global Positioning System
IT	Information Technology
SMS	Short Message Service
Dev	Development

1.3 Intended Audience and Reading Suggestions

People who can order the shoveling service:

- Homeowners
- Landlords
- Store Managers
- Business Owners

People who can participate in the work:

- Ages 10-17, with supervision
- Adults 18 and older
- Skilled/Unskilled Workers

People who will have access to the software directly:

- Software Dev Team
- Creative Team
- Support Team

1.4 Project Scope

The product will allow individuals who wish to have the snow from their premises removed to send out a request which can be responded to by one of many agents. Once the request is fulfilled, the product will estimate the appropriate collateral which the client must pay in exchange for the service. The product is aimed at those who either lack the time or capability to shovel snow such as new parents, full-time workers, senior citizens, the injured, and those with special needs. The product will mandate that those who wish to access its services provide their location and payment information (for customers) or banking information and photo age verification (for shoveling agents). These measures are intended to help maintain the safety of both client and agent parties, facilitate logistics, and provide a secure way to handle transactions. This software is also connected to Canada's insurance network which will provide coverage for seniors, families with low income, persons with disabilities, and individuals with special needs as well as individuals that might not have the time or motivation to do it themselves. This allows the product to help people regardless of their income bracket or state of being.

Other similar products found online include Shovler, MowSnowPro and Eden. Like Shovler, our service, SnowAway, strives to provide a community-oriented service that offers community members pocket money and assistance when needed. Shovler is also a community-oriented snow-removal tool aimed at connecting buyers and sellers in the community. Our product aims to accommodate agents as young as 9 years of age to make extra spending money, by allowing for a verified guardian to attend the site. We included limitations on workload ages 16 and below to follow the Ministry of Labour regulations for the legal age to work in Canada. We have also added real-time support to allow for better service, rather than email-based support services such as the one found in the other apps. MowSnowPro and Eden are other cross-platform applications that offer similar services, but the services are based around contractors as opposed to the community.

1.5 References

eden. (2022) Lawn care, Landscaping and Snow Removal Made Simple

<https://edenapp.com/>

Evoke, M(11, 2015) Mobile Sensors – The Game Changer in App Development Evoke Technologies

<https://www.evoketechnologies.com/blog/mobile-sensors-app-development/#:%7E:text=The%20most%20popular%20mobile%20sensors,must%20for%20certain%20basic%20functionalities>

MowSnowPros Inc. (2022) Yard Services on Demand

<https://mowsnowpros.com/>

Shovler Inc. (n.d.) The app that removes snow

<https://shovler.com/>

SECTION #2 - OVERALL DESCRIPTION

2.1 Product Perspective

Using an Android, iOS, or web page interface, clients will be able to interact with local snow shoveling agents in real-time. On the starting page, users will be asked to enter their account credentials or to register for a new account. Upon successful login, users are directed to a home page, where they can request for a local agent to be scheduled to come to their requested location to perform snow removal activities. Clients will have the choice to pay with saved payment information or to enter new payment information at the time of placing their shoveling request. Once the request and payment are completed, a notification will be sent to local snow shoveling agents within a local radius. Nearby agents will receive an SMS notification indicating that a local shoveling request is available. Agents can then choose to click a link in the SMS notification which will redirect them to the work order in the main application. From the work order, agents can view the location, scope, requested time, and job value, choose to accept the job, and advise their approximate time of arrival. Once a work order is accepted by an agent, becomes locked and cannot be accepted by other agents. At this time the client is notified of the name, expected arrival time of the agent, and guardian information if the agent is under 17 years of age. After shoveling the location, the agent will take a picture of the completed job, for quality purposes, and close the work order in the app. At this time the client will be sent a picture of the completed job along with their receipt and given the option to send a tip and/or rate the agent.

2.2 Product Features (Functions)

The new software will provide the following functionalities:

- Collect and store information about Customers and sellers
- Connect to Wi-Fi
- Connect to Google Maps
- Send SMS or App notifications to sellers within the radius of Customers in real-time
- Facilitate scheduling between customers and sellers
- Facilitate payment between customers and sellers
- Track agreements between buyers and sellers
- Track ratings of buyers and sellers
- Take images and allow storing and retrieving of images
- Connect users to the App support team

2.3 User Classes and Characteristics

- Customer - This software can be used by any and every individual for their own reasons (ex. Lazy, elderly, busy, disabled, etc.)
- Agent - Individuals that are looking to earn money in exchange for shoveling services (ex. Young, fit, etc.)
- Developer - Polishing the code, making updates, and designing the application Polishing their code by making updates and designing the app.
- Support - Opportunity for individuals to get a job.

2.4 Operating Environment

The software product is to meet the following criteria:

- Must support iOS, Android, and all Android-based (color, fire, etc.) mobile operating systems
- Must support Firefox, Safari, and all blink-based browsers (Chrome, Edge, Opera).
- Must have back-end dev done in Java and/or Python
- Must have front-end dev done in JavaScript
- Must operate within a Windows operating system environment
- Must utilize MySQL for storing user information and profiles

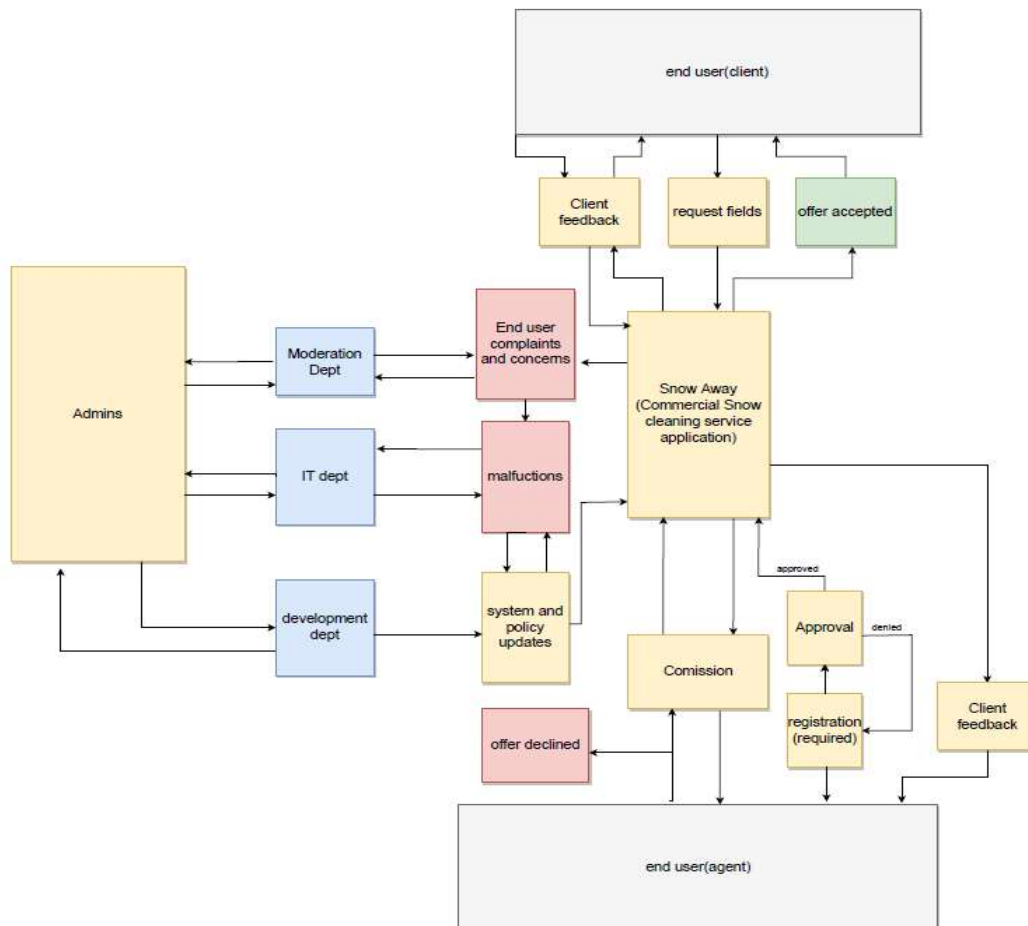
2.5 Assumptions and Dependencies

- No significant development in technology in the market
- The significance of social media for customers is growing
- Supply and demand forces are in active mode
- In the industrialized world, demand is high.
- Climate patterns continue to offer opportunities for business
- Dependencies:
 - The app will be dependent on Wi-Fi, and GPS to request agents, receive notifications, facilitate payments, and connect with support

SECTION #3 - EXTERNAL INTERFACE REQUIREMENTS

3.1 User Interfaces

End users will access the app using a mobile app interface, designed with PHP based back-end compatibly with iOS and Android platforms. The application would support Firefox, Safari, and all blink-based browsers (Chrome, Edge, Opera). to allow for maximum OS compatibility.



3.2 Hardware Interfaces

Hardware Interfaces	
<i>Hardware Interface Name</i>	<i>Description</i>
Camera	Visuals for the approximate size of the property needed to be shoveled
Microphone	Needed for talking with customer support or authentication
Barcode Scanner	Used for scanning a gift card, work badge, or a drivers license
Sensors	
GPS	Responsible for logistics of the shoveler and location of the customer
Biometrics	Added security measures that can be used to login into the app
Touch Screen Sensor	Allows for interaction with the app during use

3.3 Software Interfaces

Software Interfaces	
<i>Software Interface Name</i>	<i>Description</i>
Payment Gateway	This will be used to accept payments through various methods like PayPal, debit/credit, e-transfer, Google pay, Apple pay, etc.
Calendar	Dates are required for booking jobs, transaction history, and logging support requests
Voice API	
2-step verification	Receiving 2 step codes for key security feature
Notifications	Notifications for features such as Security alerts, nearby shoveler alerts, company status/updates, resetting login information, etc.
Google Maps API	For logistics/locations purposes for customers and agents
Email App Interface	To verify/create accounts and to communicate with a customer, agent, or support.
SMS Gateway	Allows database to send/receive SMS messages to and from other devices

3.4 Use Case Table

Use Case Table				
Goal #	Goal Name	Description	Actor	Related Requirements
G1	Agent notification	Confirm location and radius, list agents in radius, notify agents in radius of new work order	Agent	F07, F08, NF01, NF12
G2	View Open Work Order	View open work orders within radius	Agent	F09, F13, NF12
G3	Accept Open Work Order	Accept open work orders	Agent	F10, NF01, NF13
G4	Close Work Order	Close work order when job complete	Agent	F09, NF01, NF11
G5	Request Snow Shovelling	Request snow shovelling services	Client	(F07, F08) - NF01, NF08,
G6	General App Support	Request assistance or notify team of app malfunctions	Customer/Dev team	F03, F08, F14, NF02, NF03, NF16
G7	Client acceptance notification	Notify client that an agent is on the way	Client	F08, F07, NF12
G8	Closed Work Order notification	Notify client (and send invoice) when job is complete	Client	F08, F13, NF01
G9	Payment update	Adjust payment details	Client	NF09, F03
G10	Picture implementation	Take picture and link it to the work order or misconduct report for user moderation	Client/Agent	F09, NF01 NF11, NF15
G11	Final job price	Calculate job value	Client/Agent	F13, NF12, NF14
G12	Report misconduct	Report potential contract infringement between agent and client	Client/Agent	F06, F14
G13	Limit user input	Limit the necessary user input to 3 clicks	Client/Agent	NF08, NF13
G14	Registration	Create users account with payment and banking information	Client/Agent	F01, F03, NF08
G22	Forgot Password	Create new password	User	F03, F05, NF05, NF10, F11

Out of Scope Goal Use Cases	
Beyond Assignment Scope	Related Requirements
Tax information from pay	F04, NF05
Promotions	F18, NF20, NF21
Support interaction module	F06, F14, F17, NF01, NF09
Alert authorities	F11, F12, NF15
Tipping system	F04, F19
Rating system	F18, NF18
Reporting and Analysis	F05, NF11, NF15
User Manual	F12, NF13
Terms of Service	F12, NF15
Client/agent communication options	F10, NF19
Connect server	NF07, NF16
Rewards system	NF20
Job extensions (i.e. salting, sand, car clearing)	

SECTION #4 - FUNCTIONAL REQUIREMENTS

Functional Requirements List						
<i>Requirement ID</i>	<i>Requirement Title</i>	<i>Short Description</i>	<i>Stakeholder</i>	<i>Q#</i>	<i>Priority</i>	<i>Importance</i>
F01	Account Registration	The system must prompt users for information to produce a user profile before use. User information will drive payment, address, quality, and transaction history			High	High
F02	Platform	Application and database will be web-based to allow for maximum OS compatibility	Phil Morgans	19	High	High
F03	Administrative functions	Routine functions to manually perform transactions, move/add/change tables, update privileges, perform bug fixes,			High	High
F04	Transaction Database	Stores information on all transactions for purposes of user accountability/payment verification			High	High
F05	Password reset capabilities	Ability to reset account password via email. The support staff will also be able to perform this function manually.	Chelsea Williams	36	Mid	High
F06	Support type drop-down	When users are requesting support, they must select from support type, such as Payment, Application, Complaint, etc. This will allow for faster support triage.	Chelsea Williams	33	Mid	High
F07	Location Verification	The system must be capable of verifying user locations via GPS for purposes of user accountability and personalized promotions.	Sam McDonald	7	Mid	Mid
F08	Push notifications	Alerts to notify agents of nearby jobs, to alert customers of job completion or issues	Sam McDonald	8	Mid	Mid
F09	Graphic acquisition	Ability to capture visual information for the user and commission validation purposes. This feature will both provide quality information and signal job completion.	Chelsea Williams	35	Mid	Mid

Requirement ID	Requirement Title	Short Description	Stakeholder	Q#	Priority	Importance
F10	Client-Agent communication	Option to connect client and agent via chat or phone call during a job transaction window (beginning of job through 2 hours after complete)	Johnathan Smith	26	Mid	Mid
F11	Safety Alert	Means of informing moderation staff about safety concerns and/or user misconduct	Sam McDonald	12	Mid	Mid
F12	Legal compliance	The system complies with legal and regulatory requirements of locations of service			Mid	Mid
F13	Job estimate	Estimates job value based on size, complexity, and depth of job + overhead	Sam McDonald	9	Mid	Mid
F14	Product Support	Product support module to provide effective and timely communication between customers and customer support in the event of a discrepancy.	Fatima Mohammad	3	Mid	Low
F15	Weather data acquisition	Ability to gather information on the weather for logistical and snow depth analysis	Sam McDonald	9	Low	Mid
F16	Payment System	Payment System - 3rd party	Phil Morgan's	13	Low	Low
F17	Support video chat	Ability to schedule a video call with support agents in the event of a user issue.	Sam McDonald	11	Low	Low
F18	Rating System	Rating system out of 5 stars. Available immediately after job completion signal. system for customers to rate agents (for benefit of customers and agents). This rating will be recorded and cumulated on the agent's a profile/account.	Sam McDonald	9/28/29	Low	Low
F19	Tipping Capability	Prompt for an optional tip before completion of a client-agent monetary transaction	Johnathan Smith	32	Low	Low

4.2 Example Formal Use Case Description – Misconduct Report

Use case: Report Misconduct

Iteration: 1

Primary actor: App User

Goal in context: To report potential contract infringement between client and agent.

Preconditions: System must be operational and online. Correct login credentials must be entered by the client or agent.

Trigger: A user decides to notify App administration of a breach of contract

Scenario:

1. The client or agent selects the “Help” button
2. The interface displays the help topics available through the app.
3. The client or agent selects the option to “Report Misconduct” from the help menu
4. The client or agent enters misconduct details into text box
5. The client or agent can choose to add picture evidence to depict the situation or skip.

6. The system requests for an image of the situation, if applicable
7. The camera will for image capture if the user selects this option
8. The click clicks the “submit” button
9. The interface displays a thank you message to the client or agent, including an incident reference number
10. The system notifies the appropriate internal department for follow-up

Exceptions:

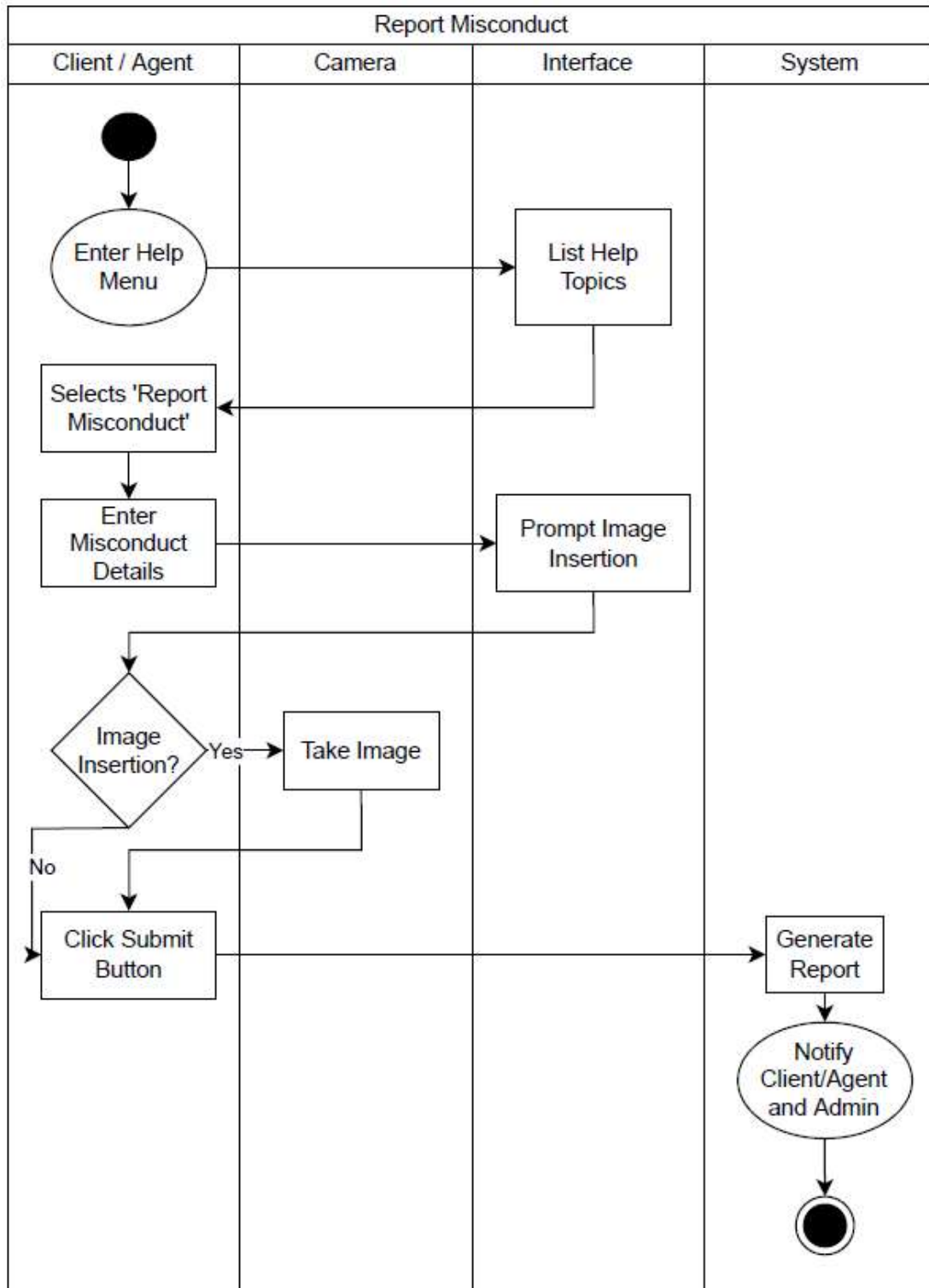
1. ID or passwords are incorrect or not recognized
2. Work order time window has lapsed
3. Work order has not been initiated
4. A workspace image has not been provided by the client
5. A completed job image has not been provided by the agent
6. The work order schedule has not lapsed, and job has not been closed by agent

When available: First increment

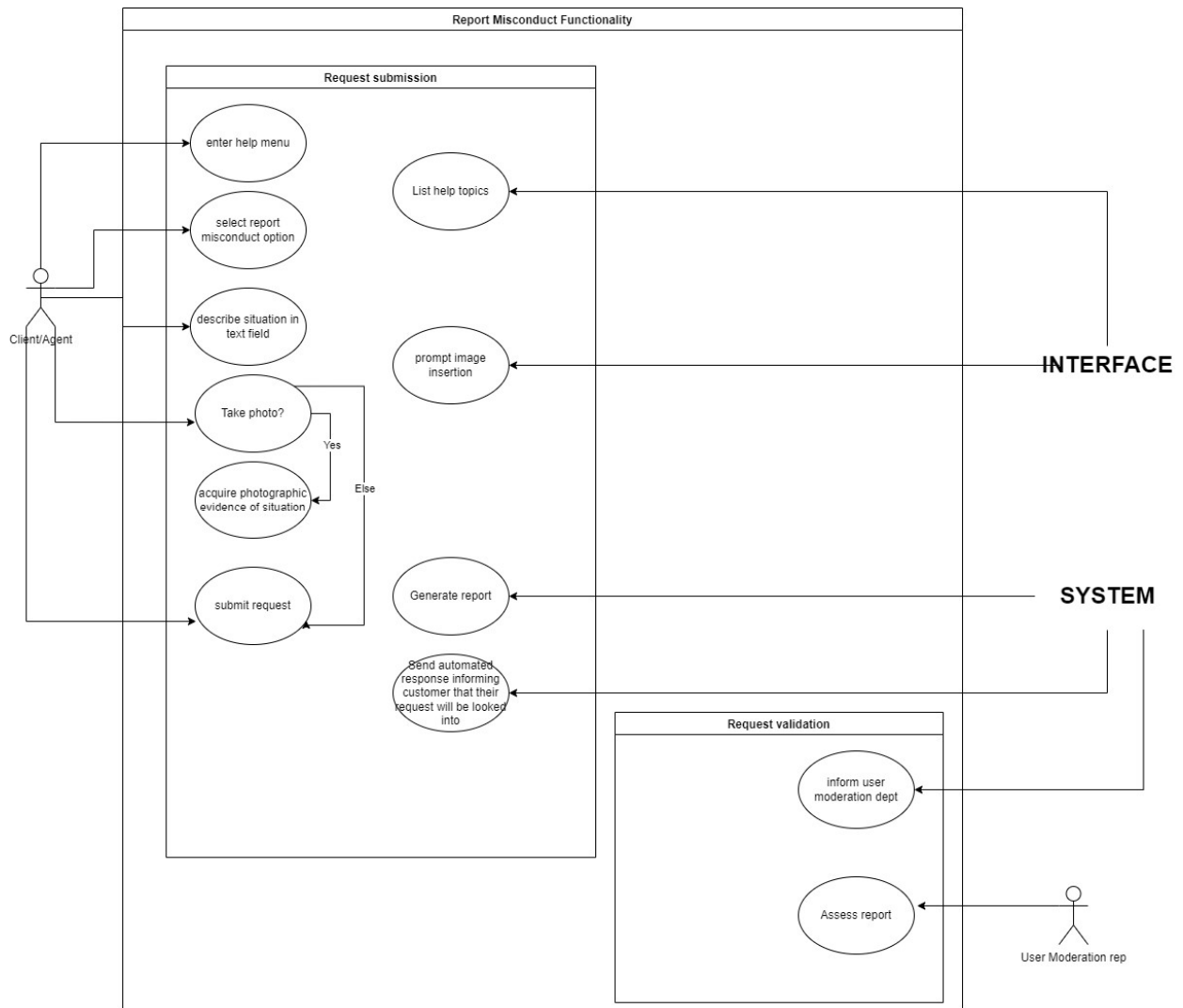
Frequency of use: Frequent

Channel to actor: Via Mobile-based or Tablet based app and Internet connection

4.3 Swim Lane Diagram – Misconduct Report



4.4 Use Case Diagram



SECTION #5 - NON-FUNCTIONAL REQUIREMENTS LIST

Non-Functional Requirements List						
Requirement ID	Requirement Title	Short Description	Requestor	Q#	Priority	Importance
NF01	Response time	Product provides feedback on user input within 2.5 seconds at most			High	High
NF02	Scalability	Develop a product to easily accommodate iteration in response to business growth	Diego Romero	20	High	High
NF03	Maintainability	Failed components of the system must be repairable within a reasonable timeframe			High	High
NF04	Mobile Compatibility	The product must be operable on both Android and iOS platforms			High	High
NF05	Data Integrity	The product offers complete secure, accurate, and traceable user history.			High	Mid
NF06	Transaction history	Maintain database of user transactions for accountability purposes			Mid	High
NF07	Server Rental	Ensure 24-hour nationwide connectivity	Phil Morgans	18	Mid	Mid
NF08	User input limitation	Limit number of button clicks to access crucial functions to 3 for user convenience	Johnathan Smith	27	Mid	High
NF09	Rapid Support	Responses and resolutions are to be provided within a fixed and limited timeframe	Johnathan Smith	30	Mid	Mid
NF10	Security	The product must meet security standards by passing DDoS, XSS, and pen tests			Mid	Mid
NF11	Taking pictures	The product will take pictures for user validation and verify commission requirements be met			Mid	Mid
NF12	Connecting to GPS/Map app	The product will request access to the device's GPS capabilities			Mid	Mid
NF13	User Experience / Usability	User Experience and usability will be considered key product release criteria. The application will provide a simple, accessible experience for all demographics.			Mid	High

Requirement ID	Requirement Title	Short Description	Requestor	Q#	Priority	Importance
NF14	Connecting to weather app	The product will request access to the device's weather reading functions			Low	Mid
NF15	User moderation	Establish a team to oversee user behavior			Low	Low
NF16	Performance	Quality of application and good quality server service			Low	High
NF17	Connecting to 3rd party payment sys	The product will utilize a 3rd party payment system for fulfilling user transactions.			Low	Mid
NF18	Rating System	Rating system for customers to rate agents			Low	Low
NF19	In-app calling	A means for agents and clients to speak to one another before a commission			Low	Low
NF20	Rewards point system	The product rewards client loyalty and agent performance			Low	Low
NF21	In-app advertisements	The product will advertise 3rd party products to user's in-between operations			Low	Mid

APPENDICES

APPENDIX A - STAKEHOLDER LIST

Stakeholder List					
Stakeholder Name	Stakeholder Position	External/Internal	Contact Details	Operational/Executive	Interest (high, med, low)
Sam McDonald	End User (agent)	External	zoom@email.com	Operational	high
Johnathan Smith	Customer	External	johnsmith73@gmail.com	Operational	high
Phil Morgans	Developer/Customer	Internal	philmorgans@hotmail.ca	Executive	high
Jack Maverick	Owner	Internal	jmaverick@gmail.com	Executive	high
Fatima Mohammed	Investor	External	fatima_mo@gmail.ca	Executive	high
Chelsea Williams	Customer Support	Internal	chels.will@gmail.com	Operational	low
Emily Hopkins	IT Administrator	Internal	emilyhopkins91@yahoo.ca	Operational	med
Diego Romero	Marketing Officer	Internal	diegoromero314@gmail.ca	Operational	high

APPENDIX B - INTERVIEW QUESTIONS

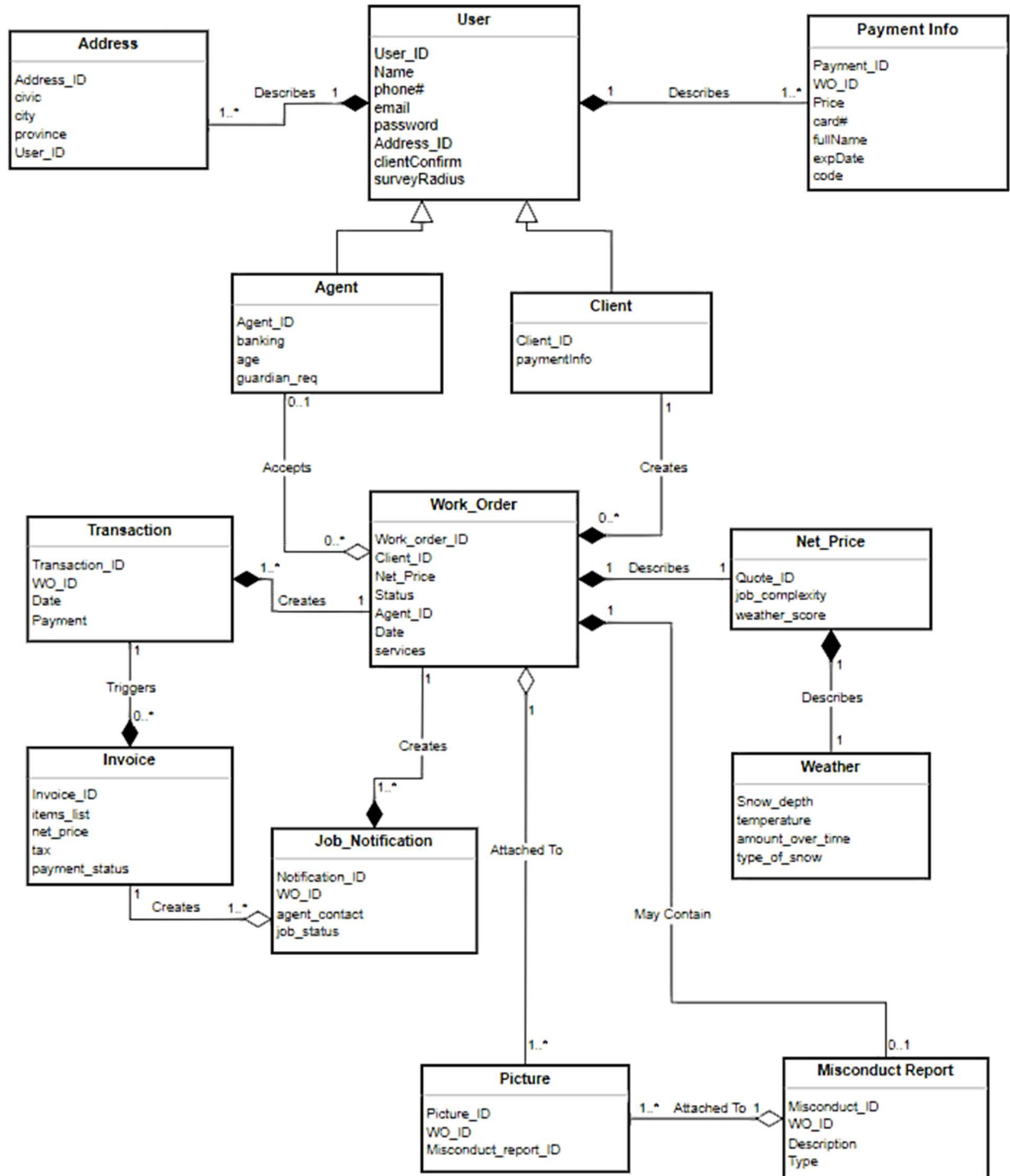
Interview Questions				
Q#	Question	Stakeholder Position	Name	Answer
1	What is the maximum number of developers you would be willing to fund?	Investor	Fatima Mohammad	It would depend on the rate.
2	Which demographics do you believe will provide the greatest return on investment?	Investor	Fatima Mohammad	I would look for the safest demographic
3	Would you be willing to allocate 20% of the budget to a user support dept?	Investor	Fatima Mohammad	I would prefer to allocate 12-15% of the budget given their importance.
4	Would you be willing to allocate 50% of the budget towards marketing?	Investor	Fatima Mohammad	Yes. I would prioritize marketing for budget allocation.
5	Would you prefer to manage our server (\$6k + maintenance) or to pay monthly server subscription fees? (approx. \$200/month)	Investor	Fatima Mohammad	I'd prefer to manage our servers given it would be a one-time investment.
6	Should you get paid by the hour, sq foot, or by job (or optional)?	User (Agent)	Sam McDonald	I would like to be paid depending on the workload and timeframe.
7	How far would you be willing to travel for a job?	User (Agent)	Sam McDonald	I would like to work within a radius of 1 mile.
8	How would you like to be notified of a local job?	User (Agent)	Sam McDonald	Notification pop-up with a job type with a do-not-disturb function
9	Do you have any suggestions that you would like to see in the app?	User (Agent)	Sam McDonald	in-app achievements, rating system, favorites list, and a rewards points system.
10	What is the maximum number of button clicks you think is appropriate to accept a job or sign up?	User (Agent)	Sam McDonald	I would prefer a negotiable rate for commissions and a real-time notification if "someone is already configuring this job"
11	How would you prefer to get help for app login, payment, or scary customer issues? (Call support, online chat, or email)	User (Agent)	Sam McDonald	I would like to communicate with support staff via video chat
12	How do you think we can make sure kids are bringing a safe adult to a stranger's house?	User (Agent)	Sam McDonald	Notifications to alert the support staff if the client has gone missing during a commission.

Q#	Question	Stakeholder Position	Name	Answer
13	Would you prefer to develop your payment system or rely on a 3rd party to manage transactions?	Developer	Phil Morgans	I would rely on a 3rd party to manage transactions.
14	Which language do you have the most experience with?	Developer	Phil Morgans	I have the most experience with Python, C#, Java, and JavaScript.
15	What operating systems do you have experience with?	Developer	Phil Morgans	Windows, and CentOS Linux
16	Which project management methodologies do you prefer to work with?	Developer	Phil Morgans	I am accustomed to Agile methodologies
17	How important is UX(user experience) to the success of this product?	Developer	Phil Morgans	The user experience would be a low priority for me.
18	Would you prefer to manage your server or to rent maintained server space?	Developer	Phil Morgans	I would prefer to rent maintained server space.
19	Would you prefer to work with a single OS or make a cloud/web-based app?	Developer	Phil Morgans	I would prefer a web-based app.
20	Which countries do you believe we should be operating in?	Marketing Officer	Diego Romero	In Canada and in the USA with eventual plans of expanding.
21	What would your marketing strategy be? open to changes	Marketing Officer	Diego Romero	Most of the marketing would come from social media, aimed at younger demographics.
22	What is the target demographic we should be aiming for?	Marketing Officer	Diego Romero	For agents, teenagers, and for clients, anyone who might need snow shoveled.
23	Can you think of any legal barriers we might encounter?	Marketing Officer	Diego Romero	Most legal concerns would arise from property damage during commissions.
24	What features will make us successful in our market?	Marketing Officer	Diego Romero	An inviting social media page and a catchy slogan.
25	Would you pay by the hour, sq foot, or by the job (or optional)?	User (Customer)	Johnathan Smith	Whatever sounds fair.
26	Would you prefer a means of communication between clients and customers before a job?	User (Customer)	Johnathan Smith	In-app calling would be preferred.
27	What is the maximum number of button clicks you think is appropriate to request a job or sign up?	User (Customer)	Johnathan Smith	I would like to limit it to 3 button clicks.
28	What is the biggest challenge you face when placing an online order?	User (Customer)	Johnathan Smith	Knowing when it might arrive and the quality of the product.
29	What would deter you from using this service?	User (Customer)	Johnathan Smith	I would be worried about quality control for commissions.
30	How would you prefer to contact product support (for login, payment, or quality concerns)?	User (Customer)	Johnathan Smith	Rapid response options.
31	How would you like to see child safety concerns be addressed?	User (Customer)	Johnathan Smith	A report function whenever a minor is unattended by a guardian.
32	Would you prefer to tip in person or to leave a tip on the app?	User (Customer)	Johnathan Smith	Prefer to leave tip on the app.

Q#	Question	Stakeholder Position	Name	Answer
33	What are some ways you believe the other departments can assist you in carrying out your task effectively?	Customer Support	Chelsea Williams	If I have a technical problem, I would like a developer to assist me.
34	If a customer encounters a transactional error, how would you assist them?	Customer Support	Chelsea Williams	I would look at their account and if necessary, request developer assistance.
35	If a client submits a complaint about an agent failing to fulfill job expectations, how do you respond?	Customer Support	Chelsea Williams	I would want workers to provide photographic evidence.
36	If a customer calls to say that they cannot log in or lost their password, how would you resolve the issue?	Customer Support	Chelsea Williams	I would refer them to the IT admin.
37	How would you like customers to contact support?	Customer Support	Chelsea Williams	With a toll-free number or via the customer service email.

APPENDIX C – CLASS DIAGRAMS

Domain Class Diagram



CRC Cards

User		Client - subclass of User		Agent - subclass of User	
Responsibility	Collaborator	Responsibility	Collaborator	Responsibility	Collaborator
create user	Address	get payment info	Address	get banking info	Address
get user details	Payment info	update payment info	Banking Info	update banking info	Payment info
update user details	Work order	get banking info	Work order	get location	Work order
	Transaction	update banking info	Transaction	get guardian ID	Transaction
	Agent	get location	User		User
	Client				

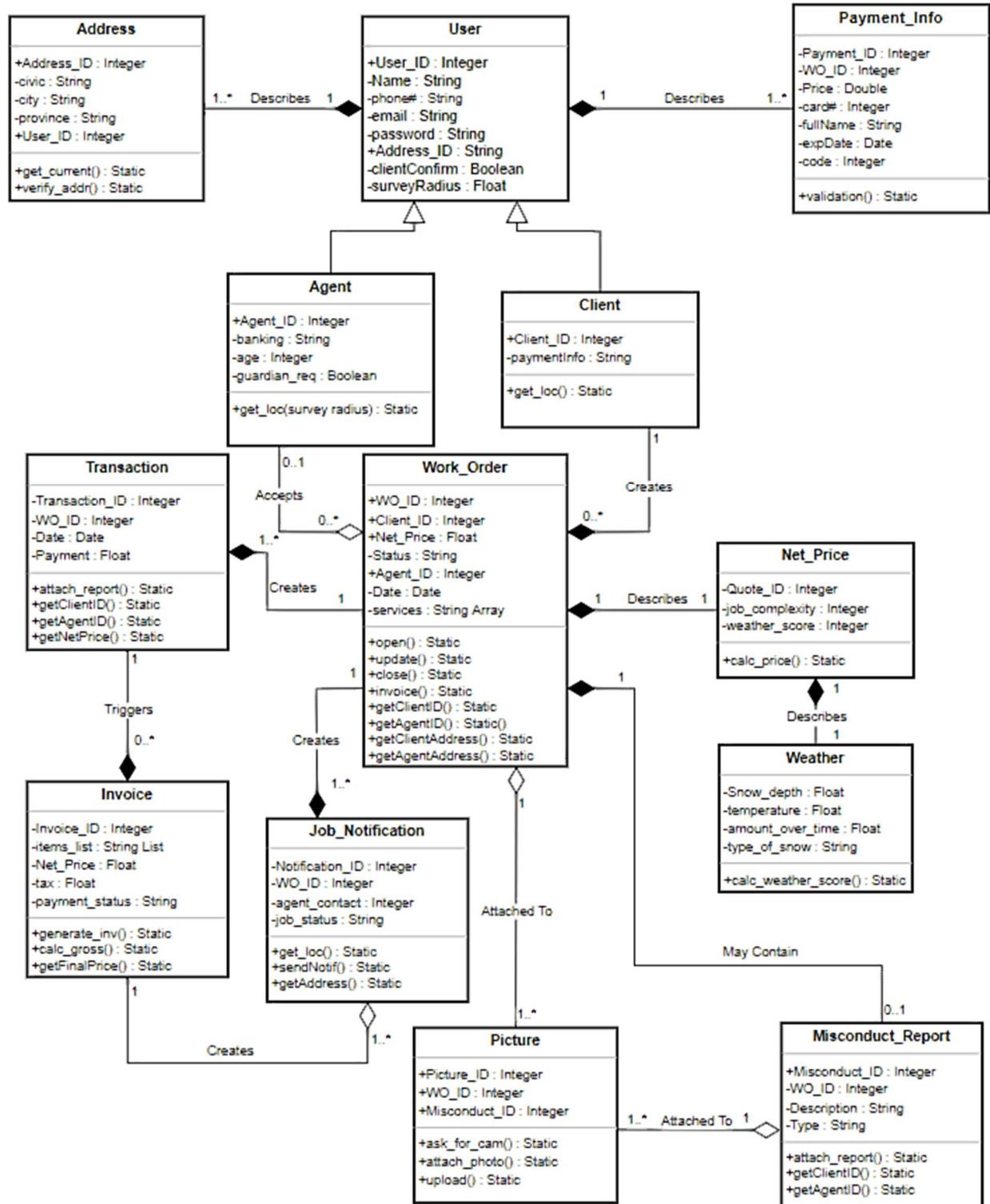
Address		Payment_Info		Work_Order	
Responsibility	Collaborator	Responsibility	Collaborator	Responsibility	Collaborator
get address details	Agent	get payment details	User	create work order	Net price
update address details	Client	update payment details	3rd party payment	get work order details	Agent
validate address details	Job notification	validate payment details		update work order details	Client
	Work Order				
	Invoice				

Weather		Net_Price		Job_Notification	
Responsibility	Collaborator	Responsibility	Collaborator	Responsibility	Collaborator
verify weather permission	3rd party weather	get job type	Work Order	get work order details	Picture
get weather details	Net price	get location	Weather	create notifications	Work order
update weather details		get job complexity	Invoice	get notification info	Address
display weather details					Agent

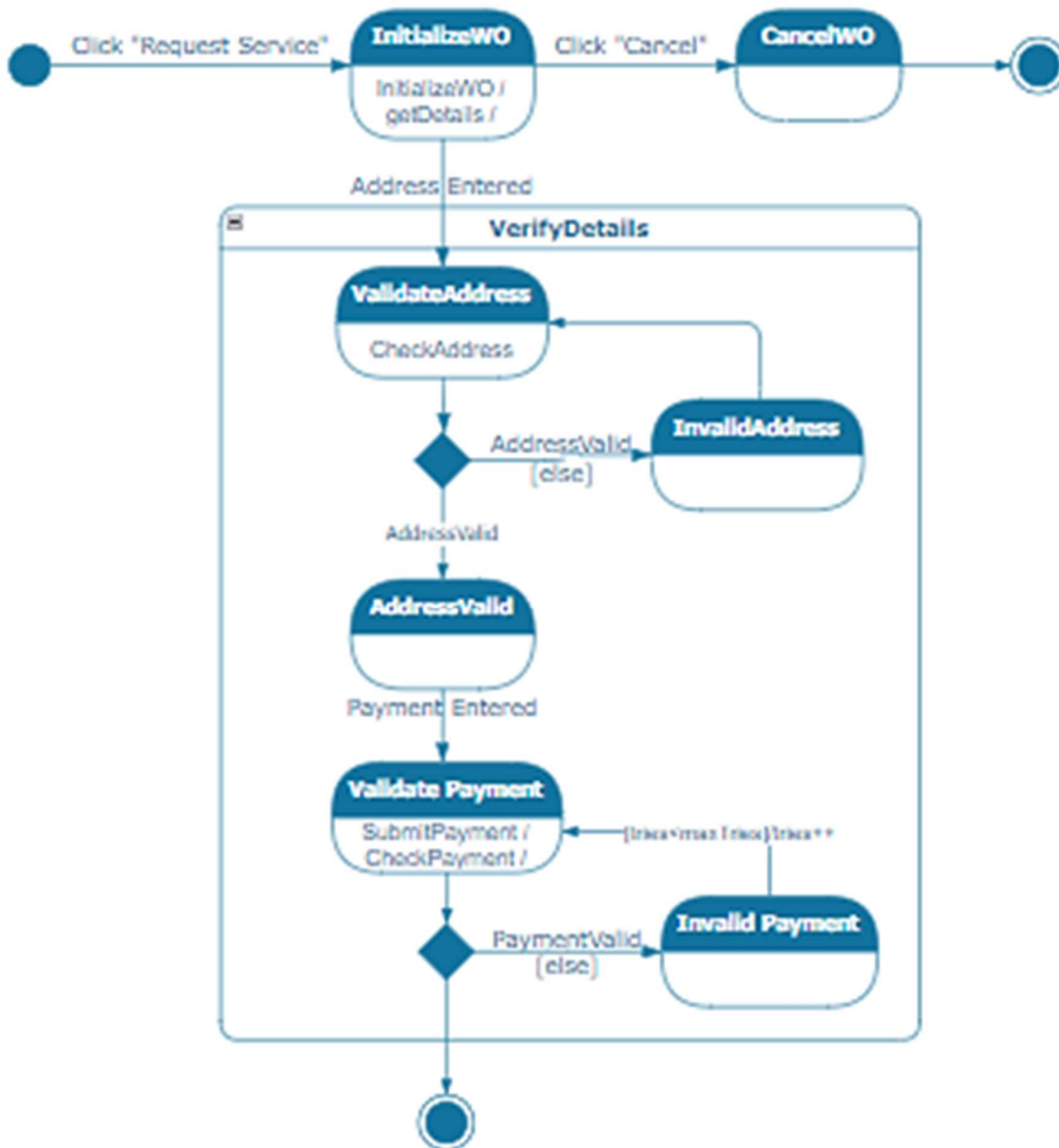
Transaction		Picture		Invoice	
Responsibility	Collaborator	Responsibility	Collaborator	Responsibility	Collaborator
get transaction details	Work Order	verify camera permissions	Work Order	get transaction details	Work order
update transaction details	Net price	access camera	Misconduct report	create invoice	Transaction
	Invoice		Job Notification	update invoice	
	Client				
	Agent				

Misconduct_Report	
Responsibility	Collaborator
create report	Work Order
get report details	Picture
update report	Client
	Agent

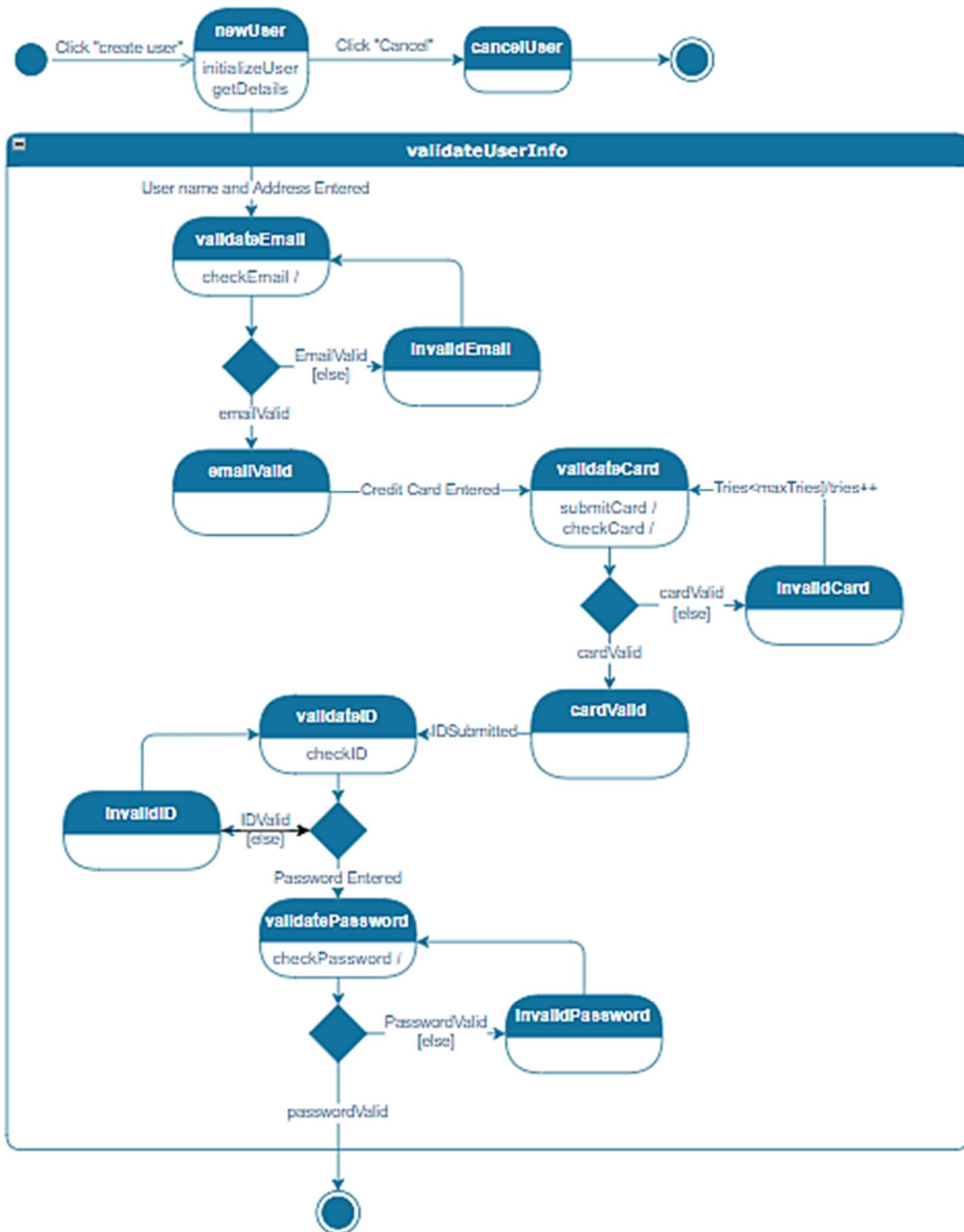
Updated Domain Class Diagram



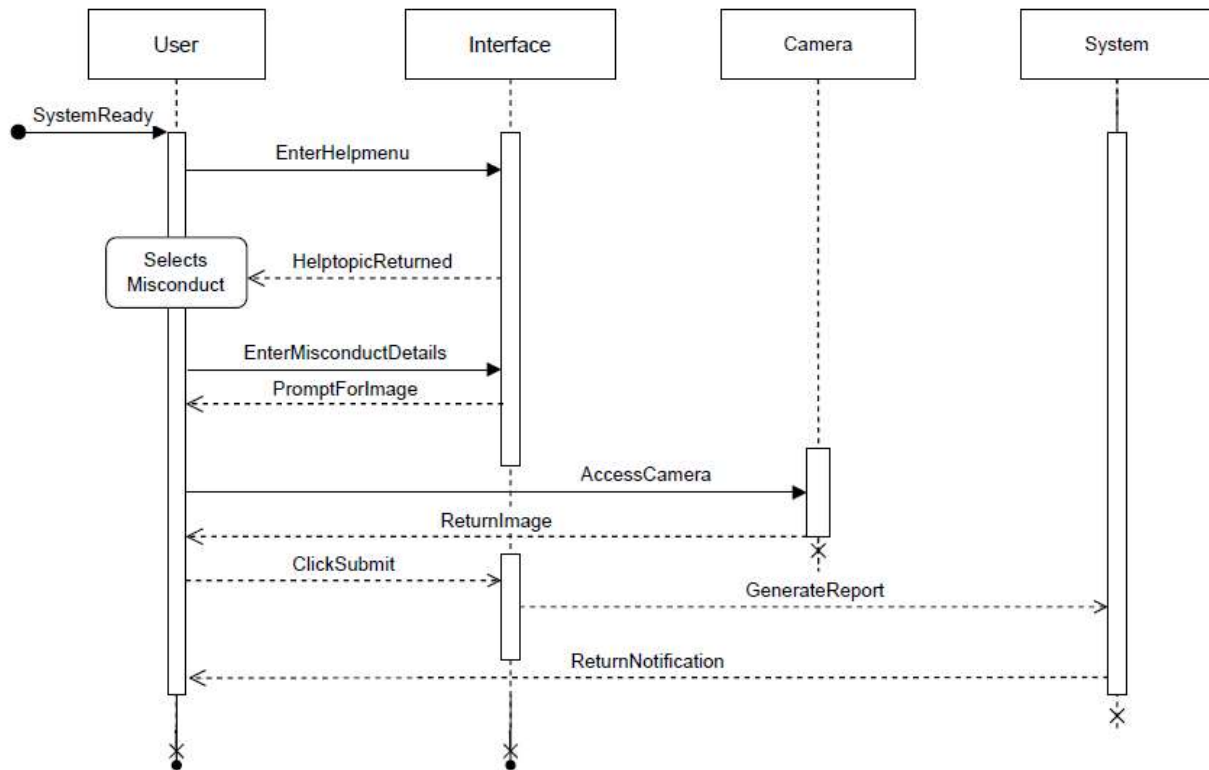
State Diagram #1 – Creating a Work Order



State Diagram #2 – Creating a User Account



Sequence Diagram – Misconduct Report

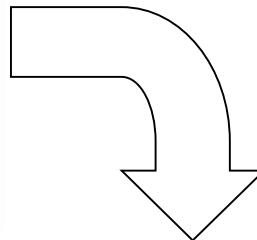
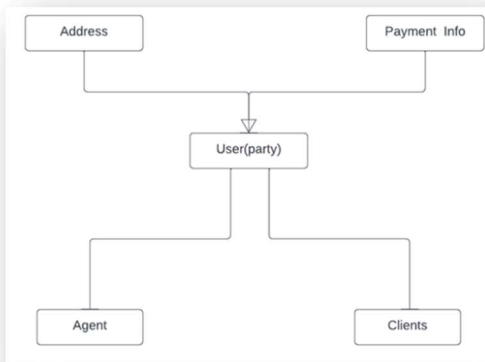


Party Analysis Pattern Diagram

To represent whole parts, The Party archetype pattern explains how to convey important details about individuals and organizations. Parties, on the whole, don't do anything exciting; they just hold information. This archetype is a highly abstract idea with just the most basic semantics, and even when modifications occur, the core concept remains the same. It only unifies the manner in which persons are represented. The composite pattern can be used for example to portray simple and integrated organization in the party archetype design and the party archetype pattern's organization. The analytical or archetypal method's construction component includes a description of how one or more construction patterns might be realized.

As for integrating this analysis pattern into our existing diagram, we noticed that we are already using a version of this analysis pattern. Please see example below to depict how our domain class diagram already made use of this concept.

Party Analysis



Notice the similarities in how the User Class already relates to both the Address and Payment Classes, as well as the Agent and Client Classes

Current Domain Class Diagram

