Deliverable #2

(Systems Development Methodologies)

New System Requirements

No	Course	Instructor	Group #	Name	ID
1	SYST28951	Ronak Sheth	6	Justin Bola	991570328
2				Jaehyung Lee	991554141
3				Hae Eun Park	991538217

*Group Name: Group 6

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Client Overview

- **Client**

  People who own vehicles for seasonal activities and need to store them during the off season

- **Business**
  - Specializes in supply of local storage(Manual work process)
  - Storage facility space
    - Indoor and outdoor
    - Individual spaces can be combined for a specific vehicle
  - Work process

    1. Employee takes information for the client's desired storage
    2. The customer drops off their vehicle(s)
    3. Meet client and give permission to access to the secured site
    4. The client makes payment

    (* Vehicle pickup has similar process)
  - Keep track of the space allocation(Magnetic whiteboard)
    - Tracking data
      - Space ID
      - Client's name
      - Mark for the occupied spaces or available spaces
  - Monthly reports of revenues
  - Follow up with their clients' records

- ## Services
    - Booking by phone call
    - Give access to client's secured site

- ## Stakeholders
    - Employee for booking
        - Interact with customer
        - Get contact information
        - Take customer's request
    - Employee for giving access to the secured site
        - Meet customers
        - Permit access to the secured site
    - Employee for keeping track of space utilization
        - Keep the magnetic whiteboard up to date
    - Owner
        - Monthly reports of revenues
    - Client
        - Book storage for their vehicles
        - Make a payment
        - Access to their contracted storage
        - Drop off or pick up their vehicles

System Vision

Problem Description

The Northern Ontario Recreational Vehicle Storage (NORVS) is a brand-new local storage service that allows clients to store seasonal or recreational automobiles during the off-season. It is crucial for NORVS to make storage usage more convenient and safe for users. In addition, it is also essential to have a simple, yet accurate storage management system.

Currently, NORVS runs completely manually. The new client registration process is done by the employees or owner over the phone. It is necessary for workers to be ready on-site in order for the clients to have access to the storage for drop off and pick up. Hence, the employees should be on standby at all times, which is extremely difficult.

The organization of storage space allocation and management is drawn out entirely on the whiteboard. Since this task is done by hand, adjustments are not always up to date and require an extensive amount of work and time.

Monthly reports are also done manually, taking an unnecessarily long time to compile and follow up with the clients' information for future usage.

It is highly recommended for the NORVS to implement a new system to obtain an effective way to store, manage, and assemble client information, space availability, and monthly reports. This will have a positive effect on both the employees and the clients, as jobs will be completed at a much faster rate.

System Capabilities

The new system should be capable of

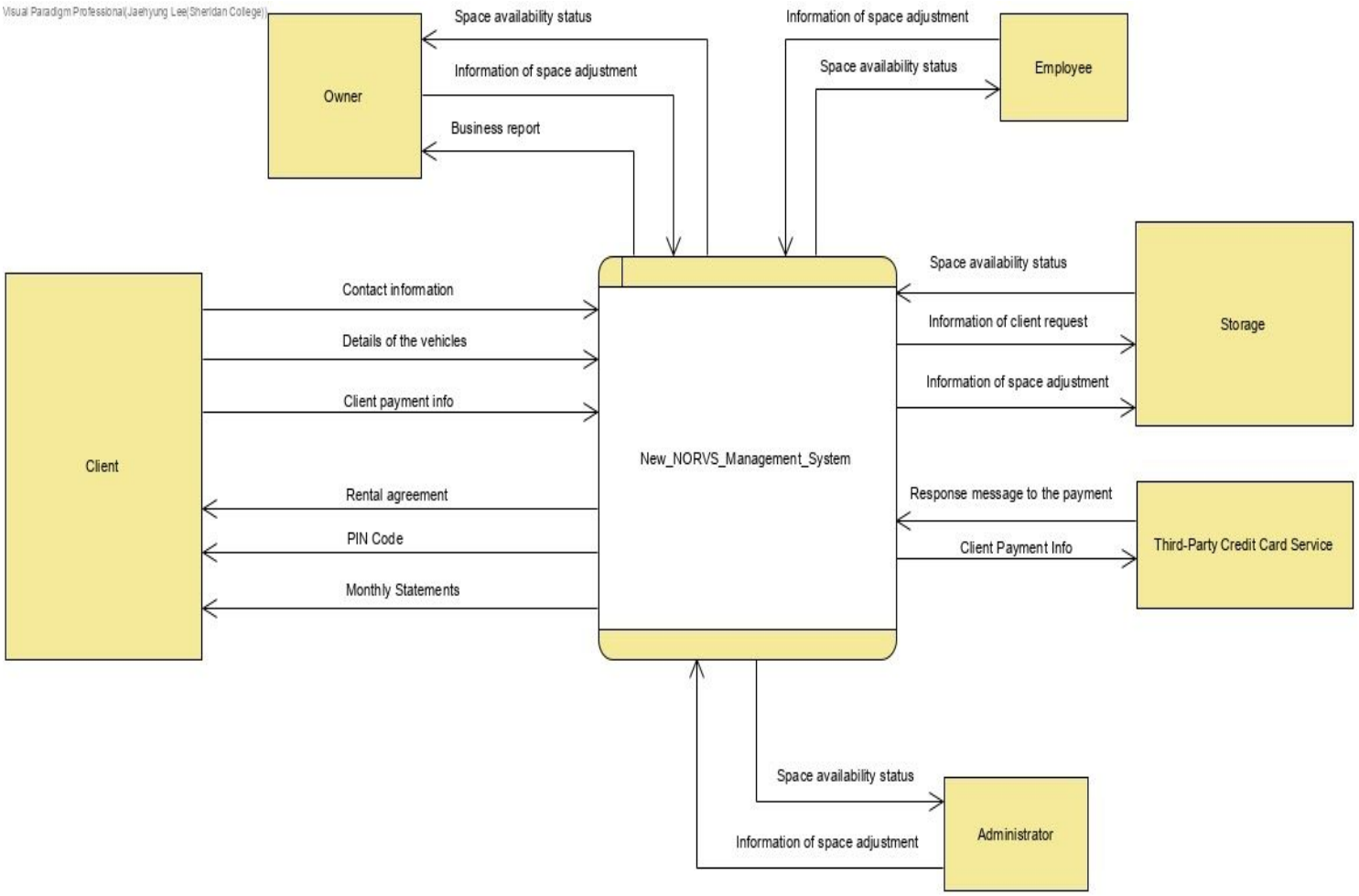
- Tracking space availability
- Updating space availability status automatically
- Providing administrative function - Adjust the spaces
  (By Owner, employees, and administrator)
- Supplying contact information and details of the vehicle(s)
- Specifying the storage based on the client request
- Approving the request
- Creating the rental agreement
- Denying or deleting the request
- Assigning a PIN code to the client when the rental agreement is made
- Providing third-party credit card authorization service
- Providing monthly statements(Depending on client preferences)
- The registration process for the client
- Client profile management component(Access and change at any time)
- Management reporting

Business Benefits

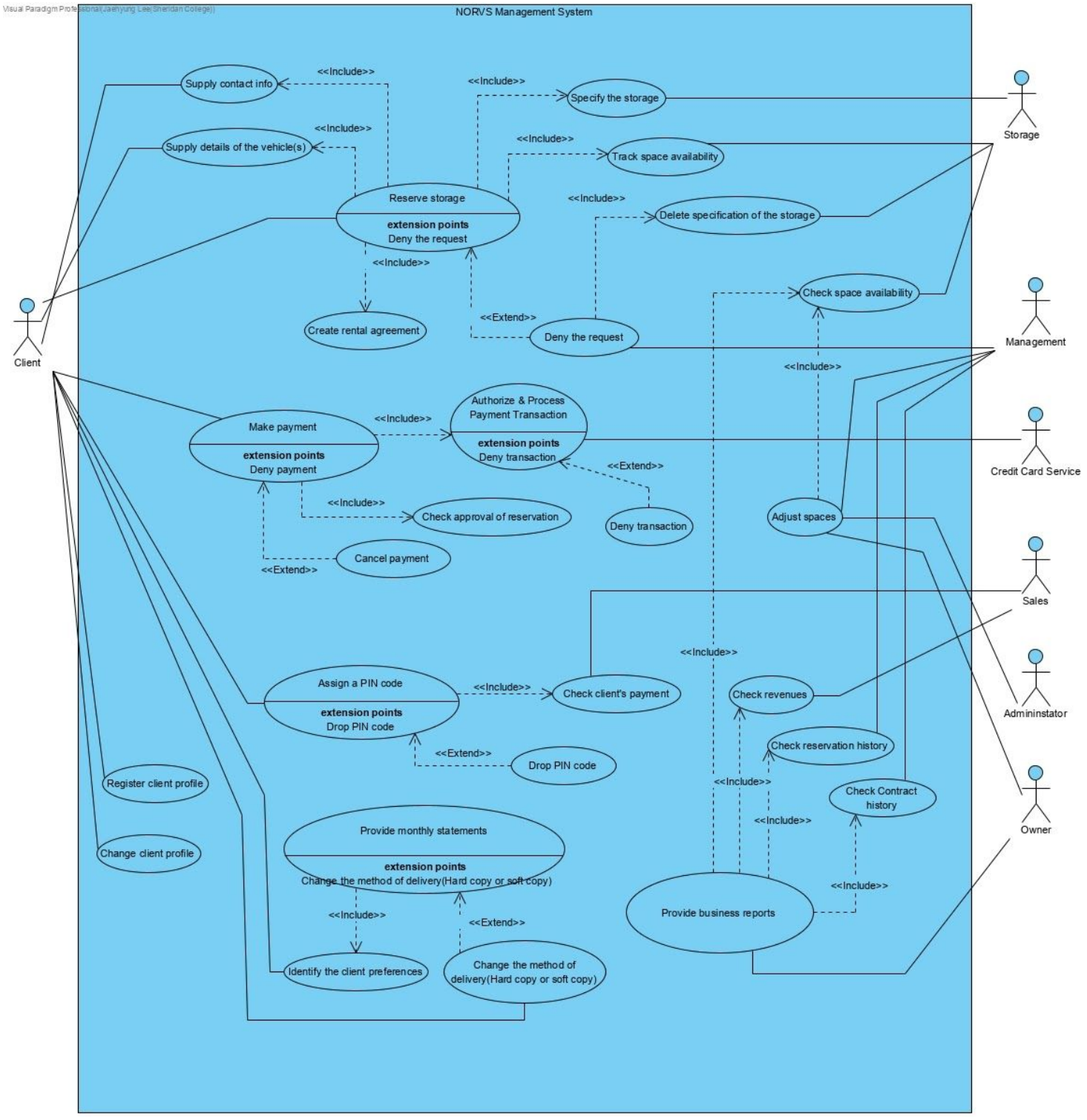
It is anticipated that the deployment of this new system will provide the following business benefits to NORVS

- Improve the quality of the information provided by a client when reservation
- Increase the accuracy of contact information provided by the client
- Maintain correct and current information on the storage availability status
- Reduce a task for permitting access to the secured site for the client
- The owner can track all business activity through accurate reports of revenues every month
- Providing a wide range of payment methods for the client

Context Diagram



Use Case Diagram of the New System



Intermediate Use Case Narratives

- ## Use Case #1 (Reserve storage)
    - Reason to choose

      The main purpose of implementing the new system in NORVS is to provide seasonal or recreational vehicle storage for the clients during their desired time. Making a reservation is the first step of interaction with the newly built system. If there's no reservation made or no vehicle stored within the storage, the need for the system is redundant.

    - Narrative table

Main Flow
1. Client logs into the system. 2. Client provides contact information. 3. Client provides vehicle information (make, model, colour, year of manufacture, approximate value) 4. Client provides vehicle size that is required to confirm storage space needs. 5. Client uploads a photo image of the vehicle. 6. Based on the customer's request, the system tracks the space availability. 7. The system specifies the desired storage location based on the vehicle's size. 8. Management approves the customer's request 9. Reservation request becomes the Rental Agreement. 10. The client signs in to the rental agreement.
Exception Condition
1. If the customer request is denied, then a. The customer request is discarded.

- **Use Case #2 (Make payment)**
  - Reason to choose

    The payment is necessary in order to finalize the Rental Agreement. Without payment, the clients are unable to store their vehicle. Therefore, this use case is essential and one of the most important use cases within this new NORVS management system.

  - Narrative table

Main Flow
1. The client goes to the payment interface 2. The system checks the approval of reservation 3. The client choose a third-party credit card authorization service 4. The client provides credit card information. 5. The third-party credit card company authorizes and processes the transaction. 6. The rental agreement is finalized.
Exception Condition
1. If the client provides wrong credit card information, then a. The transaction is denied. 2. If the client cancel the transaction, then a. The payment interface terminates

- ## Use Case #3 (Assign a PIN code)
    - Reason to choose

      The storage access should be limited to the clients who have finalized their Rental Agreements. Without it, the stored vehicles are not securely stored. Assigning a PIN code to the clients makes the system more secure and easier for the system to track the vehicle information within the Storage without having employees on standby at all times. Also, the PIN code system allows clients to access the storage anytime in their desired times.

    - Narrative table

Main Flow
1. The system checks if the rental agreement is finalized. 2. The system checks if the client made a payment. 3. The system generates PIN code. 4. The system sends the PIN code to the client.
Exception Condition
1. If the rental agreement is not finalized, then a. The PIN code is not generated.

- ## Use Case #4 (Provide monthly statements)
    - Reason to choose

      The system provides monthly statements to the client. The client can choose one of the methods(Hard copy or soft copy). The client can set it in the registration of the client profile, and even they can change it at any time. This use case is one of the essential services that interact with clients providing choices by their preference.

    - Narrative table

Main Flow
1. The system checks the client's preferred method(Hard copy or soft copy) chosen by the client in their profile. 2. If the client chose to receive the statement by mail, then the system creates a hard copy of it and then sends it to the client. 3. If the client chose to receive the statement by email, then the system sends the client an email with it as attachment.
Exception Condition
1. If the client changes their preference during the process, then a. The system updates immediately and then sends the statement by the client's preference.

Domain Class Diagram