Final Project Semester 1
Scope

Organization: ג'בארין אבו רפיק
Project name: BuildTech

1. **Introduction**

   1.1 Information Sources:

In order to collect all the data needed to understand the Organization and its environment we did an interview with 'Rafeek' he's a contractor and the owner of a building repair company. The interview based in merging between Bottom-up and Top-down techniques. The questions we asked were semi structured which means we determined some of the questions before the interview, and the rest came out during the interview.

We also collected some of the documents needed beginning with a call to the manager for getting a project bid until the project is done.

   1.2 Purpose:

We want to implement a system that manages the workflow for an independent contractor who has a company with 3 managers, 9 employees and secretary. There's a need for a system in this business field.

We find a lot of problems after the interview with the contractor:
   - He uses excel for saving all the data of his business like employees, cars, projects data…
   - He misses the date of his insurance and test of the cars and trucks he has, and also he wants to manage who is holding each car in the working field and who can .

- In order to know when each payment was received and by who, he needs to check with the secretary and check his bank account to know and this is a serious problem for him.
- Each project is divided to little missions and Each part will receive a percentage payment, so in order to know the profit from the whole project he need to calculate the expenses form the revenue.

The system will analysis and include the following data:

1. The contractor has many cars, trucks, drag trucks and mini gragger, and there's a drivers for each one has insurance, test and renew license.
1. Updating the owner about the project flow, by showing the manager the current development for each project.
2. All data saved securely, by defining all the entities in the system, there attributes and there relations.
3. Updating the owner about all payments needed, soon payments, customers payments for each stage in the project. (workers revenue)
4. Managing the Material Storage by Updating the Owner about current Material quantity and if there is any need to Order new quantity from the providers.

All requirements will be detailed later.

1.2 Customers:

- customers find us by:
- Friends of friends. ? (network of connections) -   Architect.
- Construction inspector.
- customers also can contact the organization in the order of starting a:
- private projects - house, gardens and any private site projects.
- Public projects - such as Doorments, schools, medical centers and more…

1.3 Market Survey

After a deep searching and exploring for systems that manages a Huge construction projects, No system was founded that matches the Owner and the Business

requirements. That's why the need was born for Operation a Management System for the Organization.

Projects:

projects divided by 3 types:

1. Renovation projects.
2. Building projects.
3. Maintenance and Repair of Older Buildings.

Each project has 3 or more stages. These stages depend on each specific project and its requirements.

2. User research:

2.1 System Main users:

The App is basically for the use of the Owner Rafeek, secretary, Team Manager.

2.2 USE CASES

1. For starting a new project.
2. For vehicles' management.
3. For management of checks.

3. Users Story

1. As an administrator, I need a system to manage my business; the employees, the cars we own, the revenues, the expenses and the suppliers that I work with. I need a database beside the system to hold all the data up to date.
   I need to be able to generate reports immediately and easily.
   I want to get alerts whenever an assurance of a car is close to finish, also I want to know all the details about the cars' maintenance.
   I want it to be clear to me about each project how much the incomes, outcomes and the net profit.
2. As a secretary I need from the system to add to my work, in other words to be easier to deal with more than the excel, to save me time, for example in calculating the workers' salaries, production of weekly or monthly reports.

3. As a team leader, I need to enter into the system the employees who work under me on the site on a daily basis, also to enter for each worker how many additional hours he worked(if he did).

4. **Persona**

Rafeek Jbareen

"It's the time to merge technology with our work"

Occupation: Building Administrator

Age: 32

Status: Married

Goals:
-To prosper and develop his business.
-To manage his business in the most efficient way.

Motivations:
-Rafeek is ambitious and very serious in his work.
-Has reached to a very advanced place in his business in relation to his age.

Hobbies:
Horse riding, Interested in cars and tractrons.

Technological knowledge:
Skilled knowledge of mobile phones and applications.

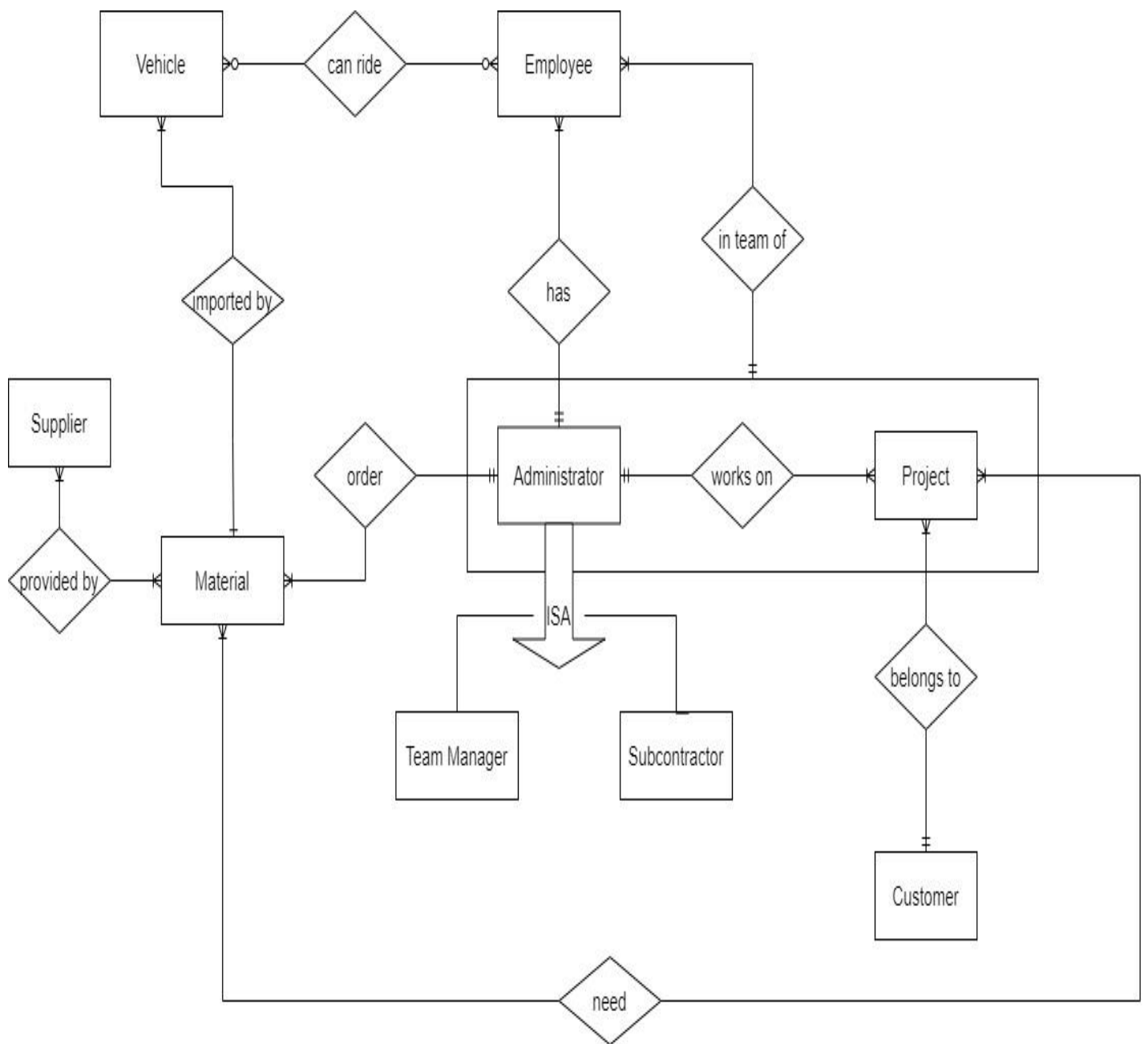**Professional Experience**

Digital

Social Network

ERD:

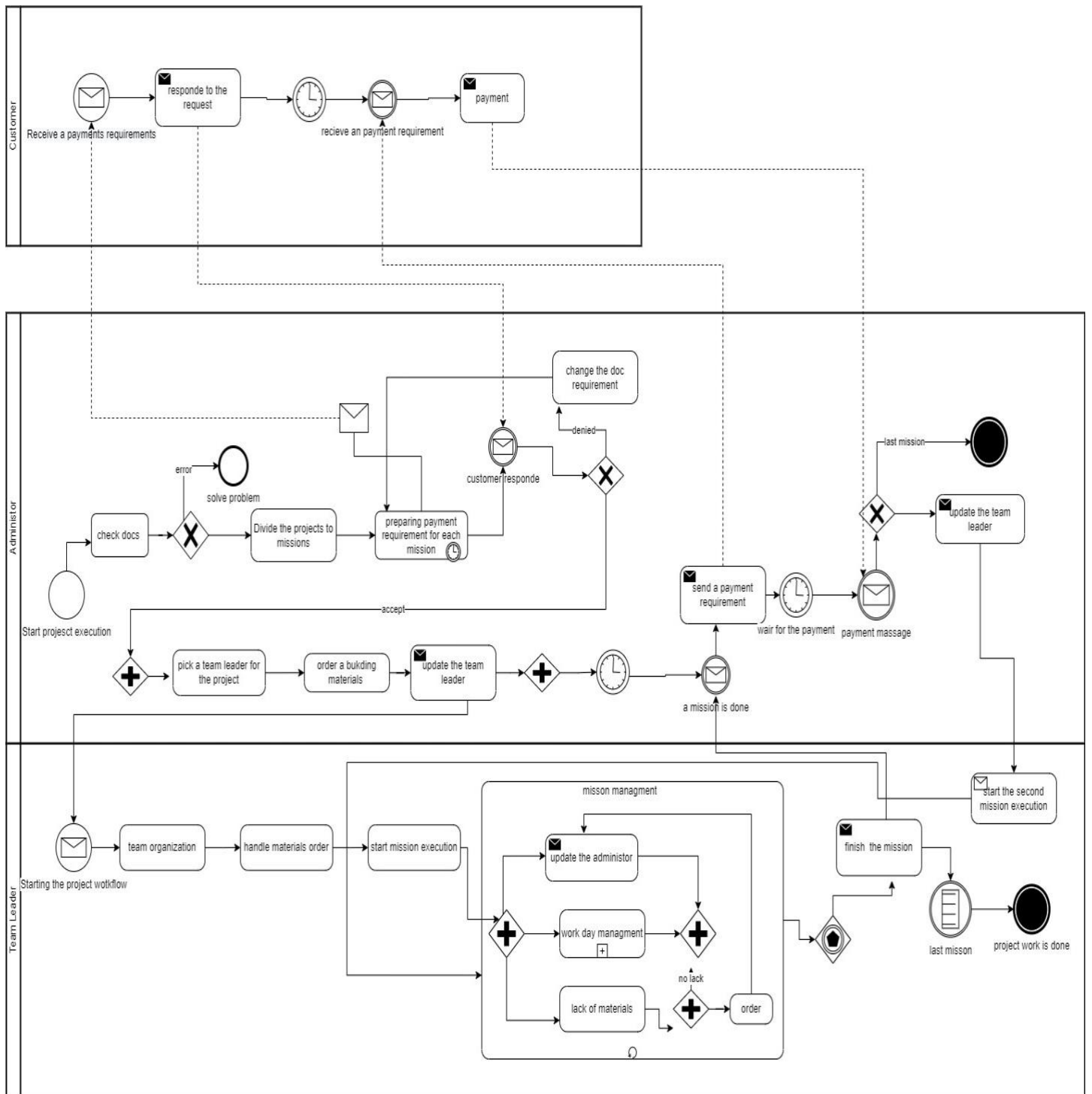# Business Process Modeling Notation-BPMN There are 4 essential process in our organization:
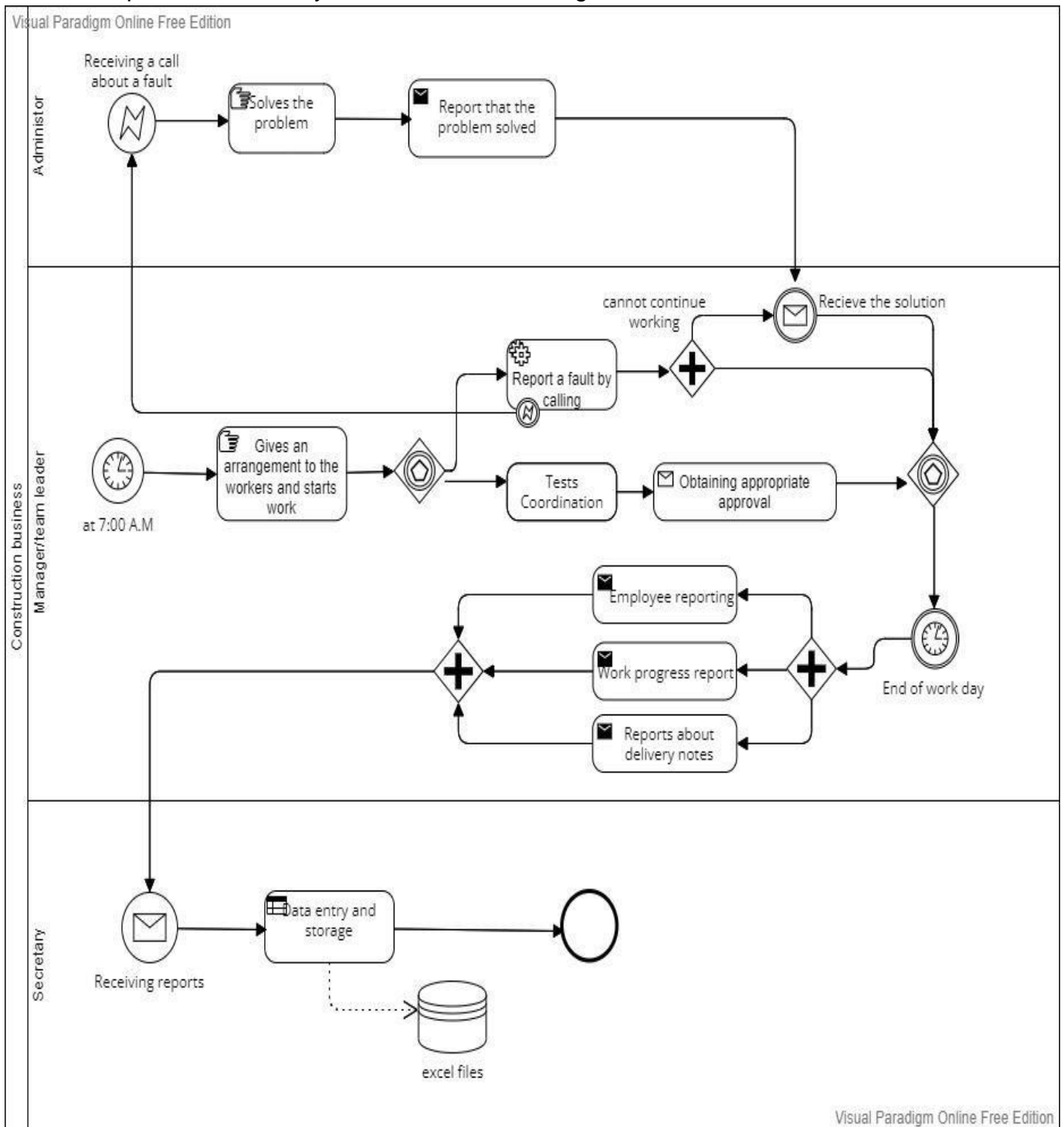
1. The process of offering a price quote to the customer until it is approved.
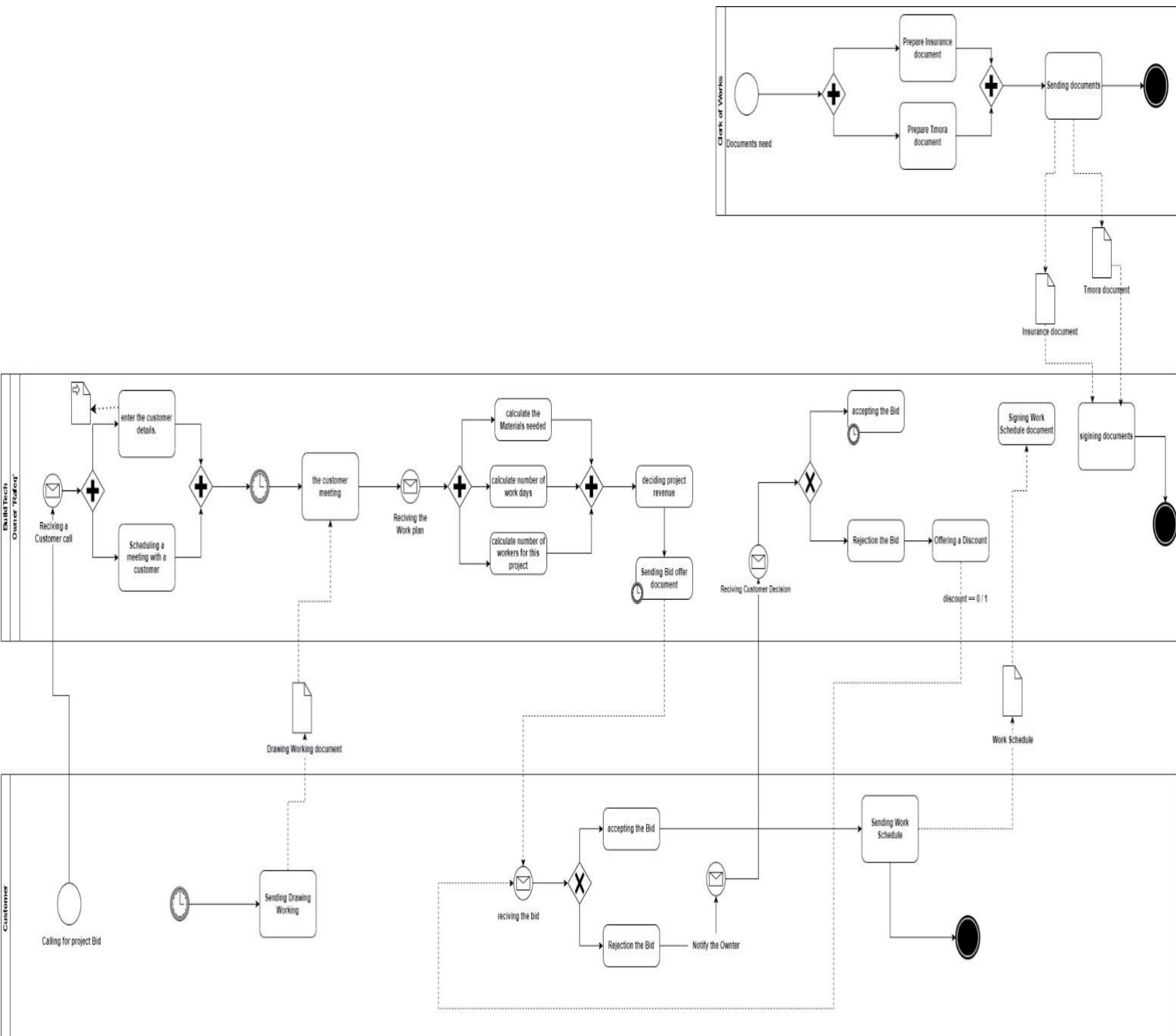
2. The process of starting a construction\repair project until it's completed.

Customer

Receive a payments requirements

responde to the request

recieve an payment requirement

payment

Administior

change the doc requirement

customer responde

denied

solve problem

error

check docs

Divide the projects to missions

preparing payment requirement for each mission

accept

send a payment requirement

wair for the payment

payment massage

last mission

update the team leader

Start projesct execution

pick a team leader for the project

order a bukding materials

update the team leader

a mission is done

Team Leader

Starting the project wotkflow

team organization

handle materials order

start mission execution

misson managment

update the administor

work day managment

no lack

lack of materials

order

start the second mission execution

finish the mission

last misson

project work is done

3. The process of a daily workflow in the working field.

Administor

Receiving a call about a fault

Solves the problem

Report that the problem solved

Construction business Manager/team leader

cannot continue working

Recieve the solution

Report a fault by calling

at 7:00 A.M

Gives an arrangement to the workers and starts work

Tests Coordination

Obtaining appropriate approval

Employee reporting

Work progress report

Reports about delivery notes

End of work day

Secretary

Receiving reports

Data entry and storage

excel files
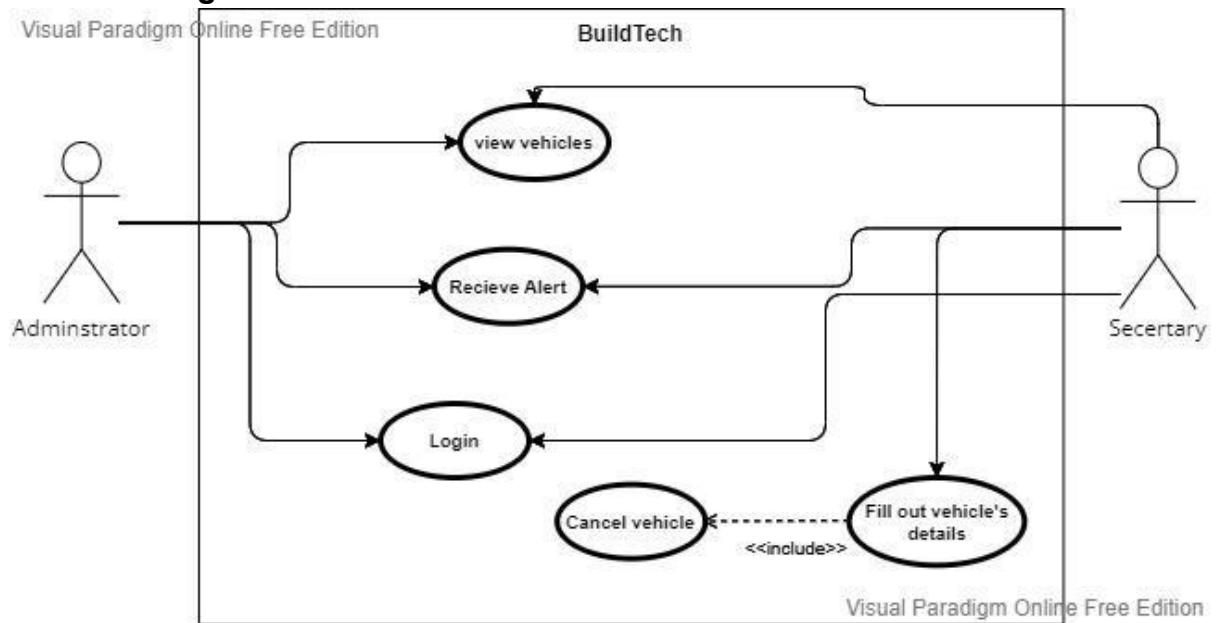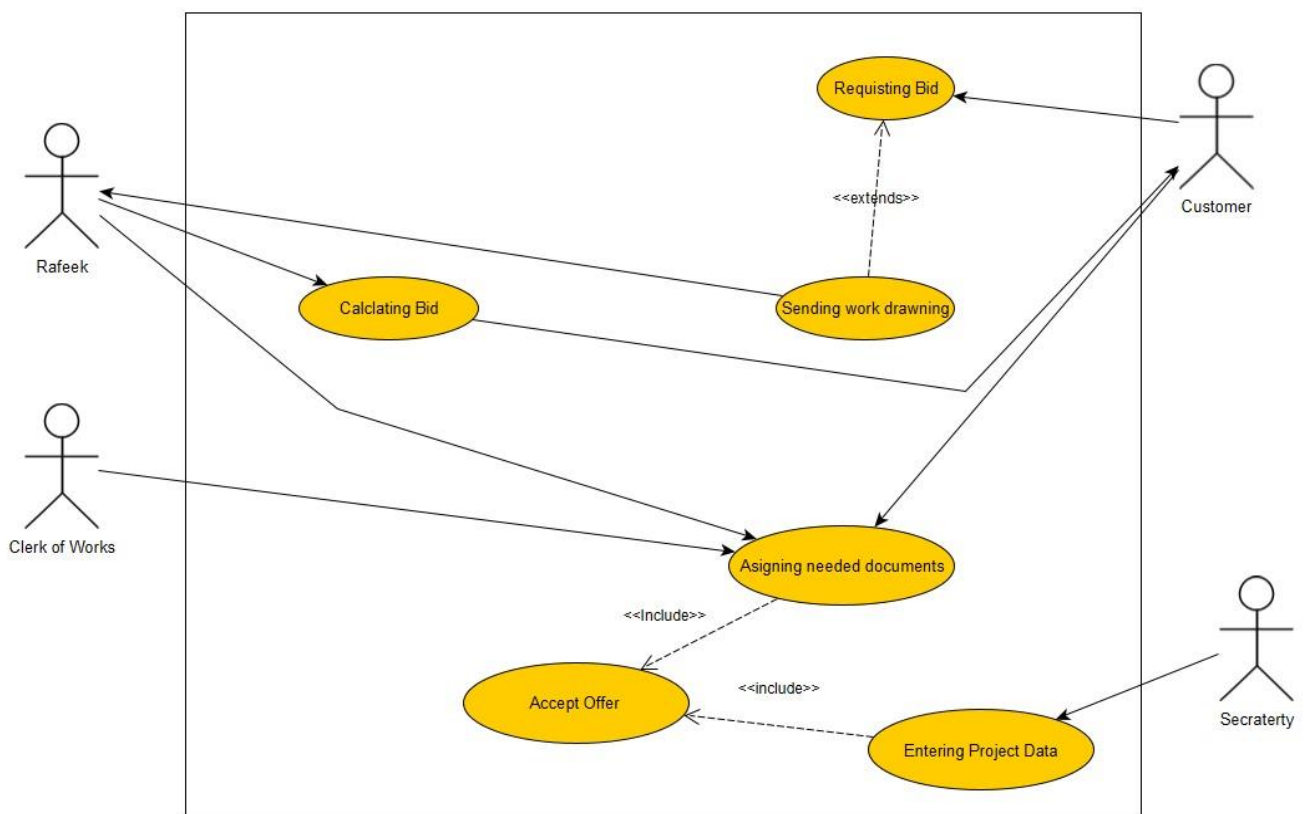
Use Case Diagram

1. For vehicles' management.

2. New Project process use case

3. For management of checks.