



BSc (Hons) in Computer Science via GDSE

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Professional Software Project in IT

PROJECT D.K.F

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List of Abbreviation

❖ DKF	- Dollar Knit Fabric
❖ QC	- Quality Control
❖ PVT	- Private
❖ LTD	- Limited Liability Companies
❖ POS	- Point of sale
❖ ETF	- Employees' Trust Fund
❖ EPF	- Employees' Provident Fund
❖ RAM	- Random Access Memory
❖ VGA	- Video Graphics Array
❖ Gb	- Gigabyte
❖ SSD	- Solid-State Drive
❖ NVME	- Nonvolatile Memory Express
❖ JRE	- Java Runtime Environment
❖ SQL	- Structured Query Language
❖ OS	- Operating System
❖ CN	- Contact Number
❖ ID	- Identification
❖ QTY	- Quantity
❖ S	- Small
❖ M	- Medium
❖ L	- Large
❖ XL	- Extra Large
❖ XXL	- Double Extra Large
❖ OT	- Overtime

1.0 Introduction to business

1.1 What is this business :

Dollar Knit Fabric Is a Job Work garment factory in Galle. It has 30 sewing machines and an ironing section. In this factory, they mainly focus on t-shirts.

1.2 What is “Job Work Garment” :

Job work garment is a type of garment manufacturing process where a company or individual outsources the production of clothing items to a specialized garment factory or workshop. In this process, the company provides the garment factory with materials, designs, and specifications for the clothing items to be produced, and the factory handles the actual manufacturing process.

Job work garment manufacturing is often used by companies that do not have their own manufacturing facilities or those who want to outsource a particular part of their manufacturing process. It can also be used by individual designers or entrepreneurs who want to bring their clothing designs to life but do not have the resources or expertise to produce them on their own.

The job work garment process typically involves a series of steps, including fabric cutting, garment sewing, embroidery, printing, and finishing. The factory workers are skilled in these areas and can produce high-quality garments in large quantities.

Job work garment manufacturing can be an effective way to reduce costs and increase efficiency, as the factory can specialize in garment production and streamline the manufacturing process. However, it is important to choose a reputable and reliable garment factory to ensure that the clothing items meet the required quality standards and are produced in an ethical and sustainable manner.

1.3 History of this business :

Dollar Knit Fabric garment factory has been in Sri Lanka since 2019. It is a private company founded by Mr.Upul Dayarathna.

First they start this garment factory with 5 sewing machines and 8 employees. Now it has become a booming business with an increased number of machines and employees. And their buyers have also increased rapidly.

When giving orders from the factory they give to keep textile 2% - 5% from the order (depending on the buyer). DKF sells those textiles in their showroom.

1.4 Business mission :

The business mission of a job work garment factory is to provide high-quality and efficient garment manufacturing services to companies and individuals who require outsourcing

of their clothing production. The factory aims to produce clothing items that meet the customer's specifications and requirements while adhering to ethical and sustainable manufacturing practices.

The mission of the job work garment factory is also to be a reliable and trustworthy partner for its customers. This involves providing excellent customer service, ensuring timely delivery of orders, and maintaining open communication with clients throughout the manufacturing process.

In addition to meeting the needs of its customers, the job work garment factory has a broader mission to contribute to the growth and development of the garment industry. This involves promoting best practices in garment manufacturing, investing in technology and innovation, and creating job opportunities for skilled workers.

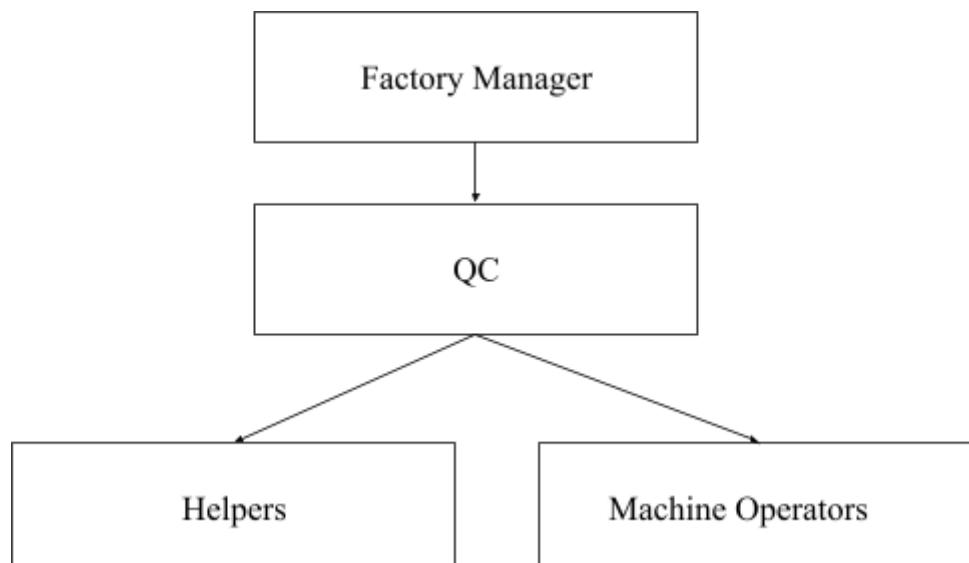
The job work garment factory aims to operate in a socially responsible and sustainable manner, with a focus on minimizing its environmental impact and promoting fair labor practices. This includes using eco-friendly materials and production processes, implementing ethical labor practices, and maintaining transparency in its supply chain.

Overall, the mission of a job work garment factory is to provide a reliable and efficient garment manufacturing service that meets the needs of its customers while promoting sustainable and responsible business practices.

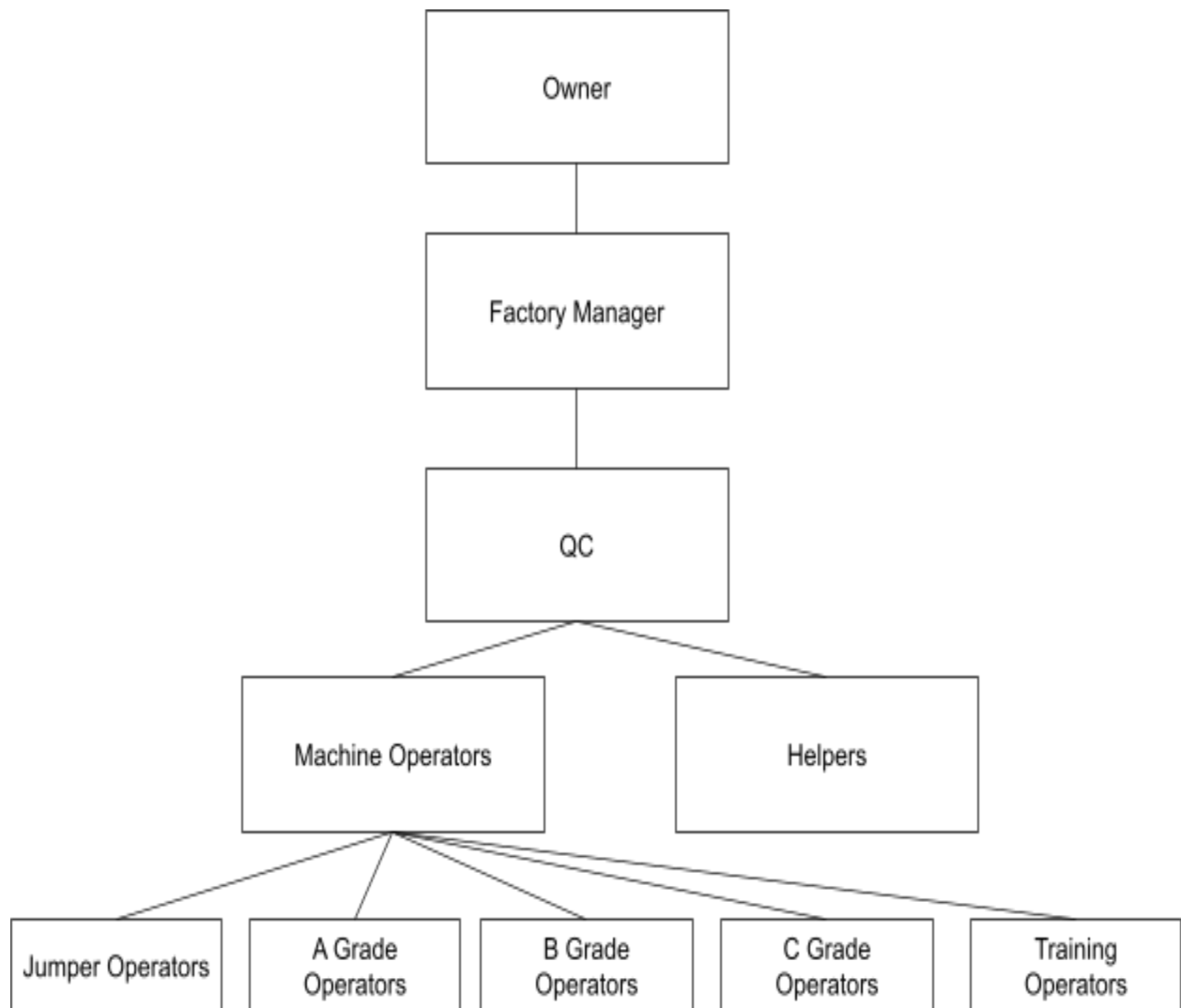
1.5 Employees of the business :

- Machine Operators : 25
- Helpers : 05
- QC : 01
- Factory Manager : 01

1.6 Employee Hierarchy :



1.7 Organizational Structure :



1.8 Main buyers :

- Smart Shirt(PVT)Ltd
- Polytex Garments Limited
- Vogue Tex (PVT) Ltd
- Shiran Garment
- Bodyline (PVT) Ltd
- MAS Active Shadowline
- Brandix Lanka Limited

1.9 Main brands :

- Next
- Puma
- Nike
- Polo
- Tommy
- Adidas
- M&S
- Gap
- V&S
- Land's end

2.0 Overview of the proposed solution

2.1 Why they hire me :

Although it was a very small amount in the beginning, now they have to keep a very large amount of records. Because their buyers have increased rapidly and they have to keep details of every input and output for every textile and accessories.

They have to exert a lot of effort to control these documents and because of this the efficiency of the workplace has been damaged. So they hired me to make a solution to this problem.

2.2 Identify issue :

- The manual Input detail form can be lost or damaged.
- Time consuming when making a salary for employees.
- Difficult to check T-shirts in stock.
- Difficult to write daily output and check it.
- Difficult to create gate pass when order shipped.
- There is a lot of paperwork to do.
- Employees can cheat on the business.
- Waste a lot of time managing business processes.
- Difficult to manage buyers.
- Security issues.

2.3 Project target processes :

- Inventory Management
 - Input Management
 - Output Management

- Accessories Management
- Stock Management
- Employee Management
 - Salary Management
 - Attendance Management
 - Employee detail management
 - Fund Management
- POS System
 - Customer Management
 - Buyer Management

2.4 Suggestion :

- Save order details at a digital media.
- Manage inputs and daily output using a computer.
- Create new orders.
- System can manage users.
- System can make salaries for employees.
- System can generate pay-sheets for employees.
- System can generate gate passes when shipped order.
- System can make bills for customers.
- System can view fund details of Employees.(ETF,EPF)
- System can avoid a lot of business mistakes.

2.5 Functional requirements :

- Order Management
- Buyer Management
- Input Management
- Output Management
- Packing Management
- Shipment Management
- Customer Management
- Employee Management
- Salary Management

2.6 Non-Functional requirements :

- Low RAM usage
- Security options
- Loading speed
- Generate Pay-sheet
- Generate Gate pass
- Generate bills

2.7 Hardware requirements :

- Monitor (it should be 1440 x 900 resolution)
 - Core i3 3rd gen Processor
 - 8Gb RAM
 - 1Gb VGA
 - 500 Gb HDD
 - 128 GB SSD NVME
- receipt printer
 - Keyboard
 - Mouse

2.8 Software requirement :

- JRE 11 or above
- My SQL 8 or above
- Windows 10 /Mac OS/ Linux

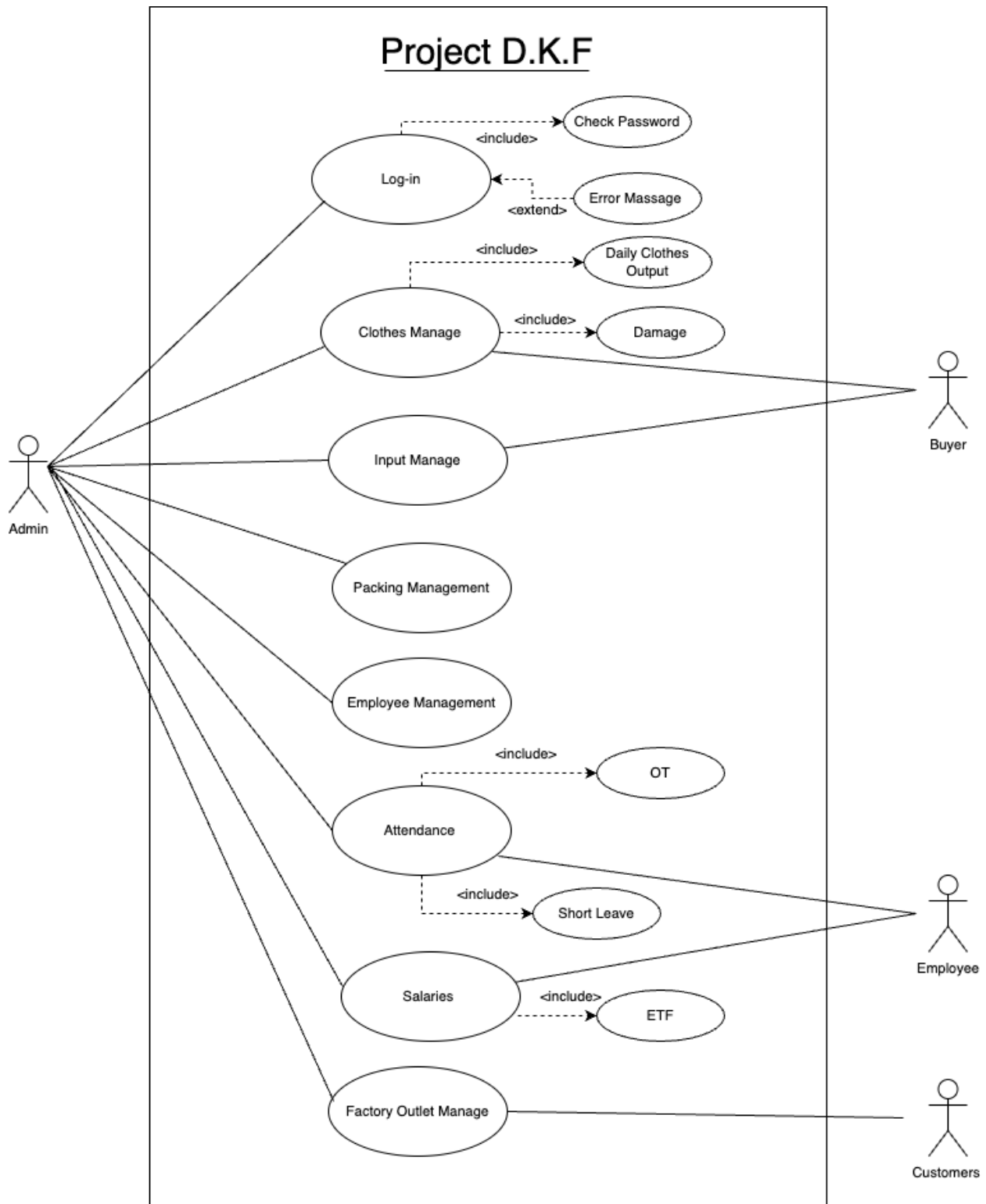
3.0 Advantages of the solution

There are several advantages of using software for job work garment manufacturing.

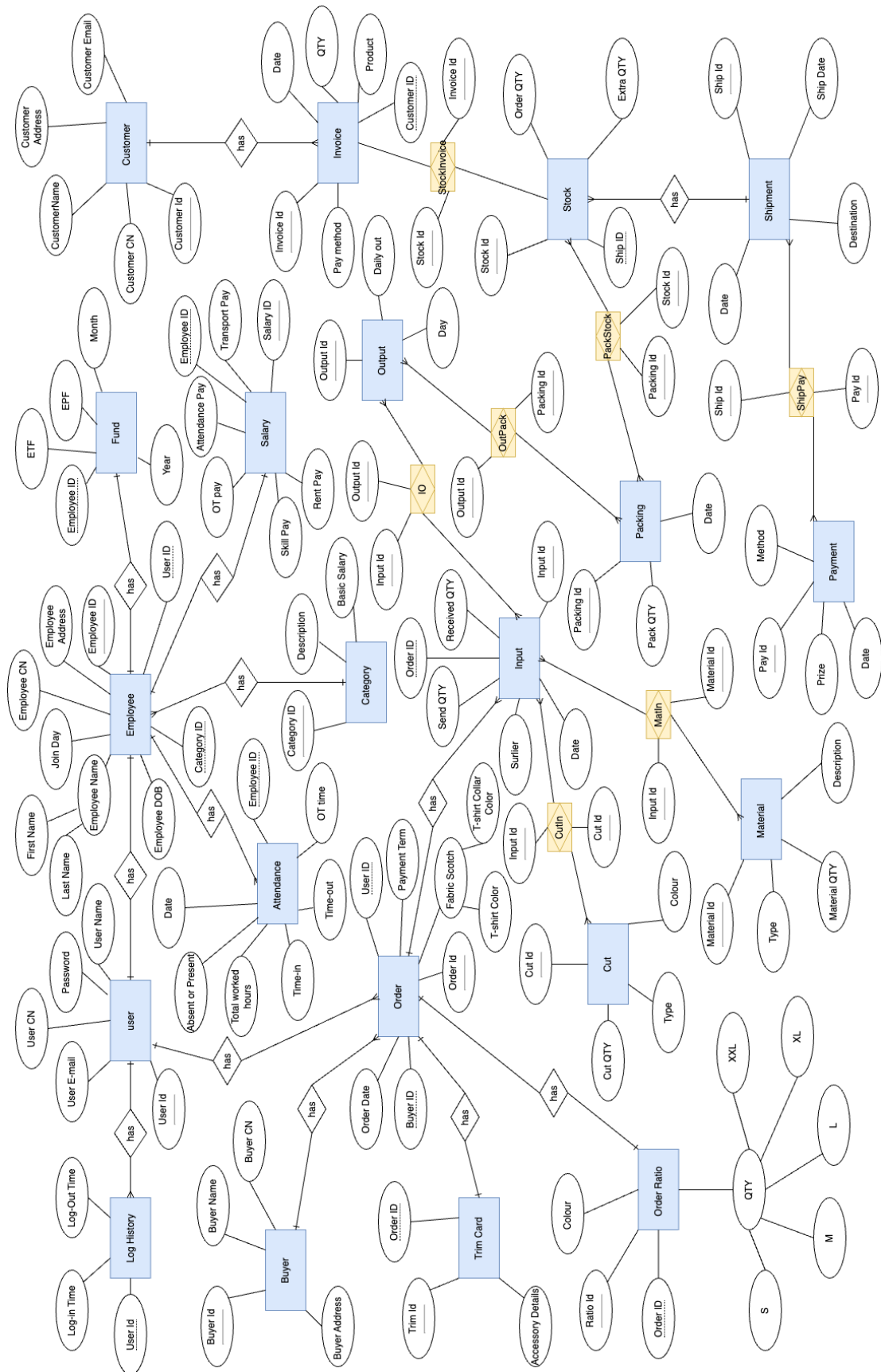
- Increased productivity: The software can automate many aspects of the garment manufacturing process, such as order processing, material management, production scheduling, quality control, and inventory management. This automation can help increase productivity and reduce errors and delays.
- Better inventory management: The software can help manage inventory levels and track material usage, reducing the risk of stockouts or overstocking. This can help reduce costs associated with inventory management.
- Enhanced data analysis: The software can help gather and analyze data on various aspects of the garment manufacturing process, such as production rates, defect rates, and inventory levels. This data can be used to identify areas for improvement and optimize the manufacturing process.
- Improved transparency: The software can provide real-time updates on the production process, giving clients visibility into the status of their orders. This can help improve transparency and build trust between the job work garment factory and the client company.

Overall, using software for job work garment manufacturing can help increase efficiency, improve quality control, reduce costs, and enhance transparency.

4.0 User Case Diagram :



5.0 Entity relationship diagram (ERD) :



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