



ADHIYAMAAN COLLEGE OF ENGINEERING

(AUTONOMOUS)



MANUFACTURING ENTERPRISE RESOURCE PLANNING (ERP)



ACE Electrical Equipments India Pvt Ltd
ISO 9001:2015 Certified Company

Mr. SATHIYASEELAN SELVAJRAJ, CEO
DXSO Pvt Limited, Hosur

SUBMITTED BY

ABISHAKE D
GOPALA G
GOKULRAJ S P
GOPI V
HARISH M
CHITRA LAKSHMI S R

INTRODUCTION:

- ▶ Manufacturing ERP (Enterprise Resource Planning) web application, designed to optimize manufacturing processes.
- ▶ It integrates various business processes into centralized system, that facilitates efficient management of the manufacturing process.

OBJECTIVES:

- ▶ Develop a Operator-friendly web application that integrates BOM processing, job scheduling, operator tracking, order tracking, inspection.
- ▶ Provide a centralized system - enabling efficient resource allocation, accurate scheduling, and effective quality control.

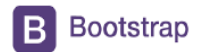
EXISTING SYSTEM:

- ▶ The current state of the manufacturing process management relies on manual systems (**EXCEL**) that lack integration and automation.
- ▶ These systems often include a combination of spreadsheets, paper-based documentation, and standalone software applications.

PROPOSED SYSTEM:

- ▶ Manufacturing ERP web application developed allows administrators to manage and track customer orders efficiently.
- ▶ It provides a operator-friendly interface for entering order details, such as order number, customer name, part number, quantity, and deadline.

TECHNOLOGY USED



Frontend



Backend



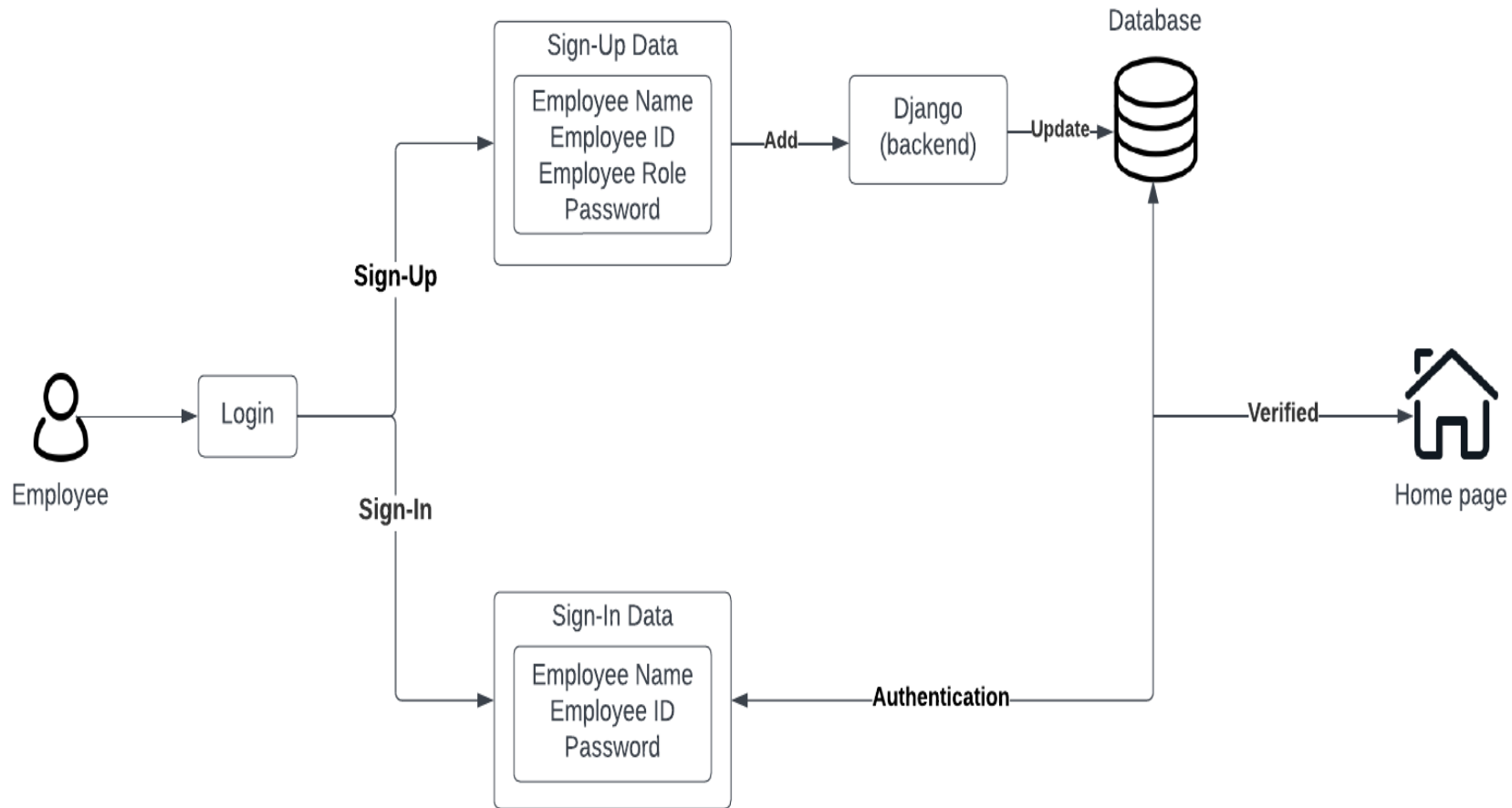
PostgreSQL

Database

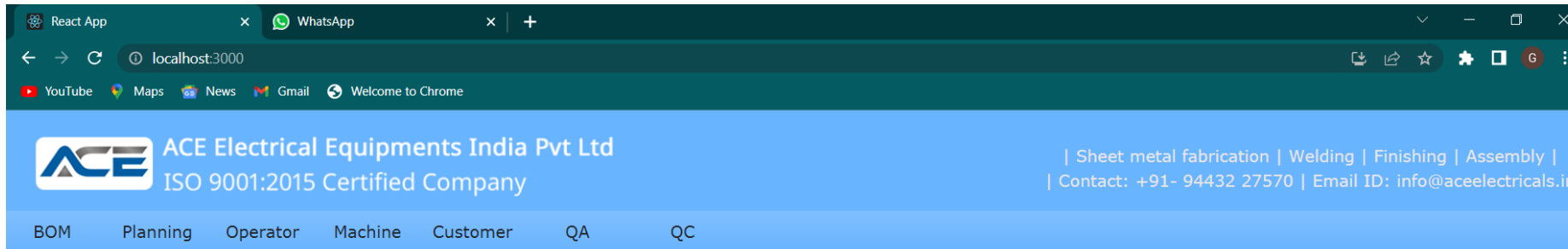
MODULES

- ▶ 1. HOME PAGE
- ▶ 2. BOM VIEWER
- ▶ 3. PLANNER
- ▶ 4. OPERATOR
- ▶ 5. QUALITY ASSURANCE
- ▶ 6. QUALITY CHECK

HOME ARCHITECTURE:



HOME PAGE:



Sign in

Employee Name

Employee ID

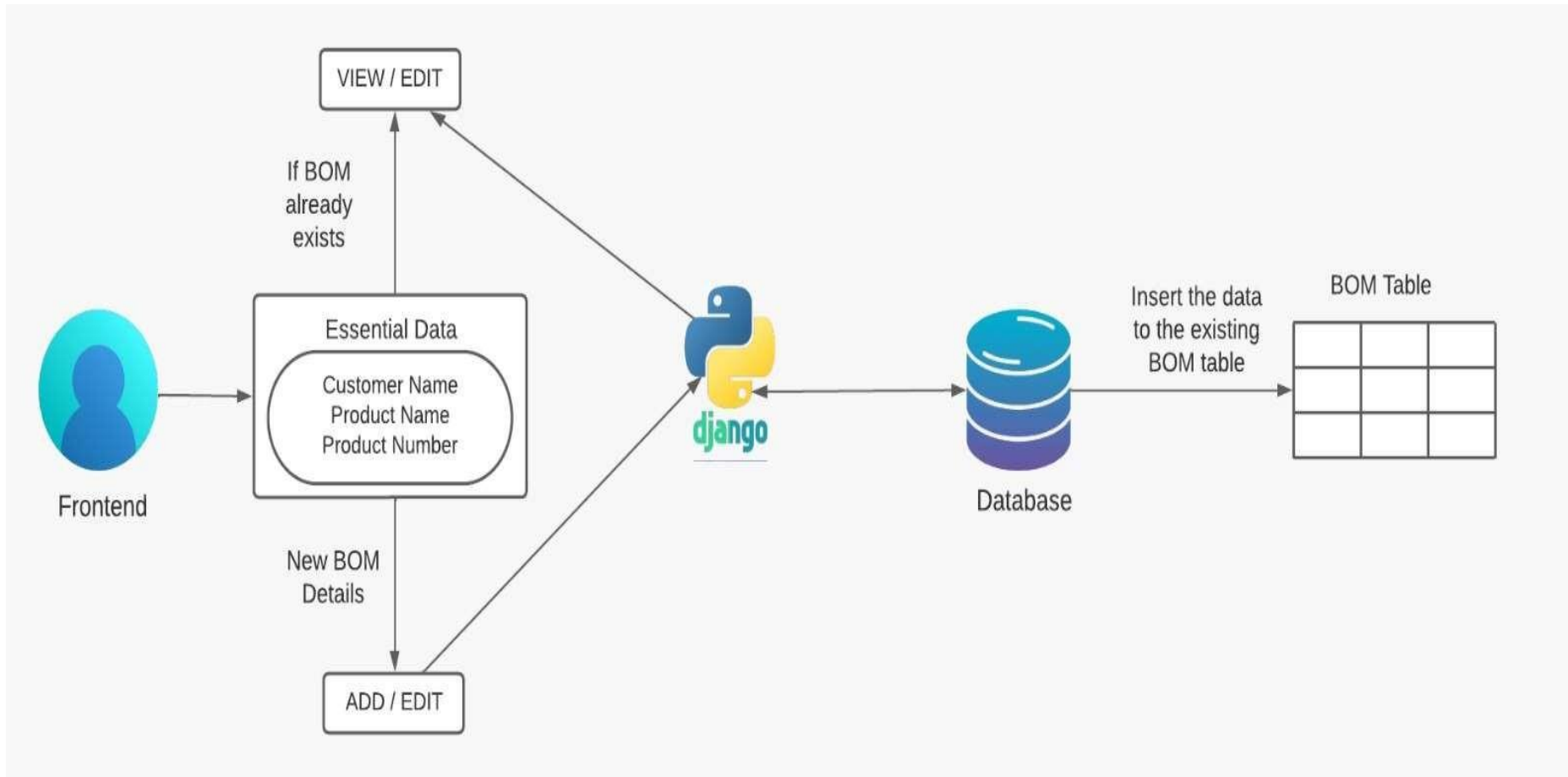
Password

Sign up

Login

Cancel

BOM VIEWER ARCHITECTURE:




BOM VIEWER:

React App

localhost:3000/Bom

YouTube Maps News Gmail Welcome to Chrome



BomViewer

Tue Jul 04 2023
7:47:05 PM

Customer Name: Chitra SR

Product Name: kva

Product Number: 4

View

Delete


Edit

Cancel

id	SL.NO	Sub_Assy_part_No	REV_NO	Child_Part_No	Part_Name	Quantity	Surface_Finish	Material	Qty_In_Drawing	Thickness	Width	Length
1	1.0	373-52646	0	NaN	FIXED PLATE	4	NaN	SGCC	1	2.0	36.6	226.0
2	NaN	NaN	NaN	SE-FH M3-6	StudM3X6	4	NaN	MS	1	1.2	NaN	NaN
3	3.0	373-52884	0	NaN	L FRAME	2	NaN	SGCC	1	3.0	105.5	540.0
4	4.0	373-52898	0	NaN	FAN FIXED PLATE	1	NaN	SGCC	1	1.5	698.0	355.0
5	5.0	373-52903	NaN	NaN	LCD FIXED PLATE	1	EN327N	SGCC	1	1.2	152.0	462.1
6	6.0	373-53322	NaN	NaN	Z FRAME	1	NaN	SGCC	1	2.5	63.0	15.0
7	7.0	373-55204	0	NaN	BRACKET(DOOR) 1392S EATON PPC- 250-M4	3	EN327N	SGCC	1	1.5	45.0	100.0

Windows

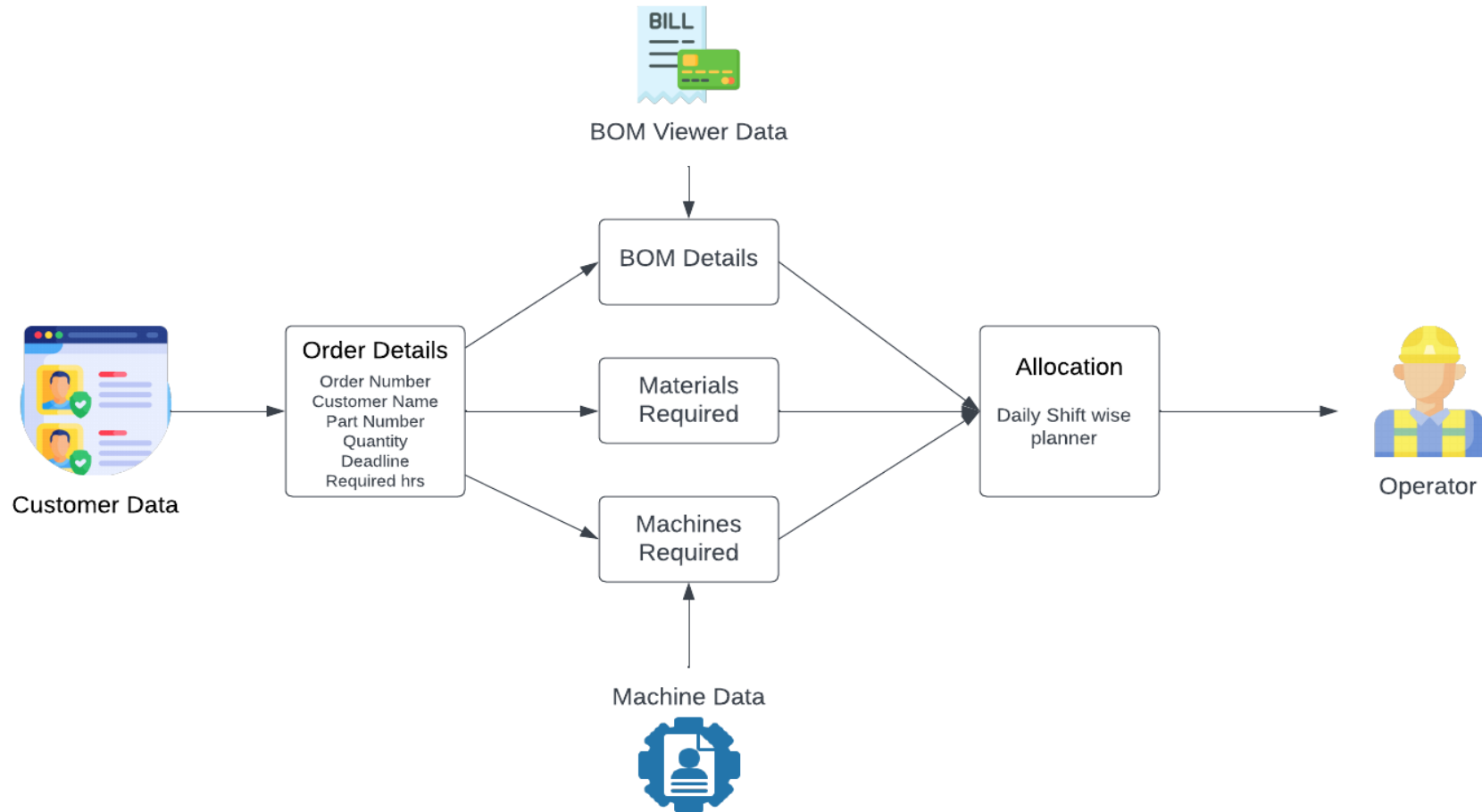
Type here to search



GBP/INR +0.35%

07:47 PM
04-07-2023

PLANNER ARCHITECTURE:




PLANNER:

React App

Page not found at /

localhost:3000/planner

Product Planning

Fri Jun 23 2023
12:36:54 AM

Order Number

Select Orde

Customer Name

Deadline

dd-mm-y

Required Hours

--:-- --

Product Number

Quantity

BOM Details

Material / Machines required

Allocation

Start Date

23-06-2023

End Date

30-06-2023

Hours Req'd

--:-- --

Shift Req'd

Machines

Available

Date	Shift	M/C1		M/C2		M/C3		M/C4		M/C5	
23/06/2023	morning	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty
23/06/2023	afternoon	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty
23/06/2023	evening	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty

Date	Shift	M/C1		M/C2		M/C3		M/C4		M/C5	
24/06/2023	morning	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty
24/06/2023	afternoon	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty
24/06/2023	evening	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty	PartNo	Qty

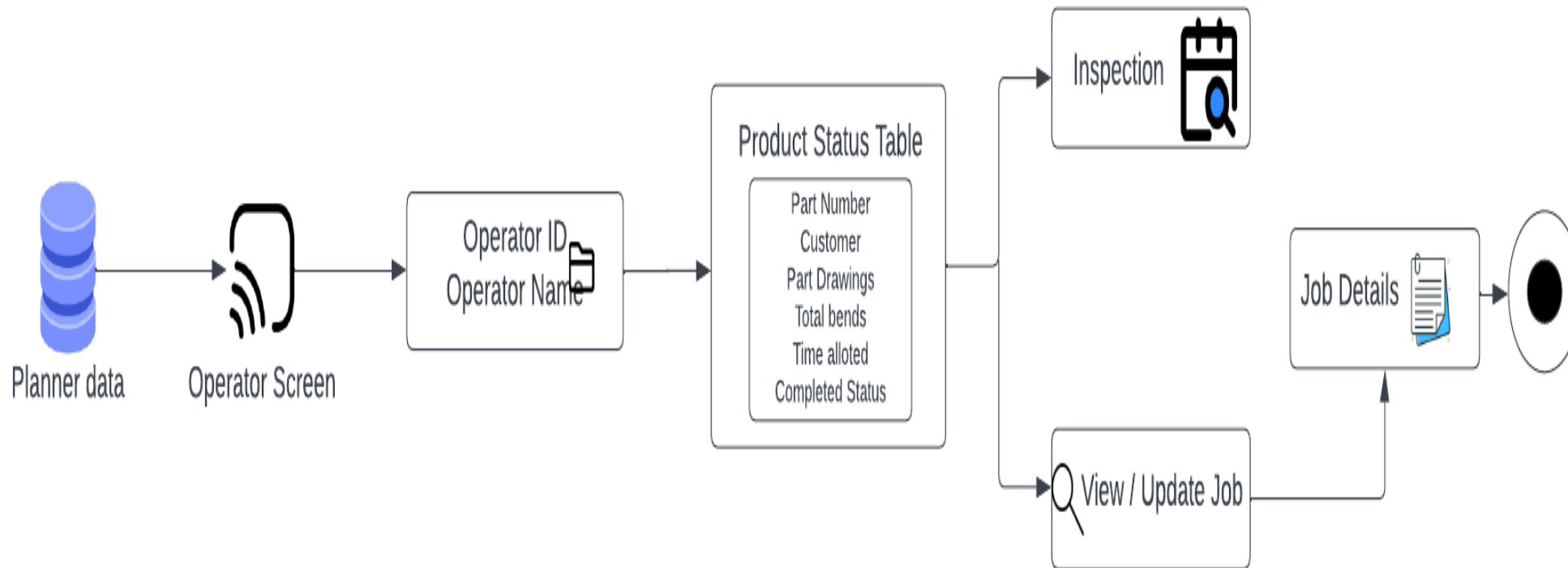
Submit Allocation

Type here to search

25°C Partly cloudy

12:36 AM
24-06-2023

OPERATOR ARCHITECTURE:




OPERATOR:

WhatsApp

React App

localhost:3000/operator

Operator

Sun Jun 25 2023
12:04:21 PM

Shift

Morning

Machine

5

Operator

eg:Gopi

Operator ID

AC20UCS15

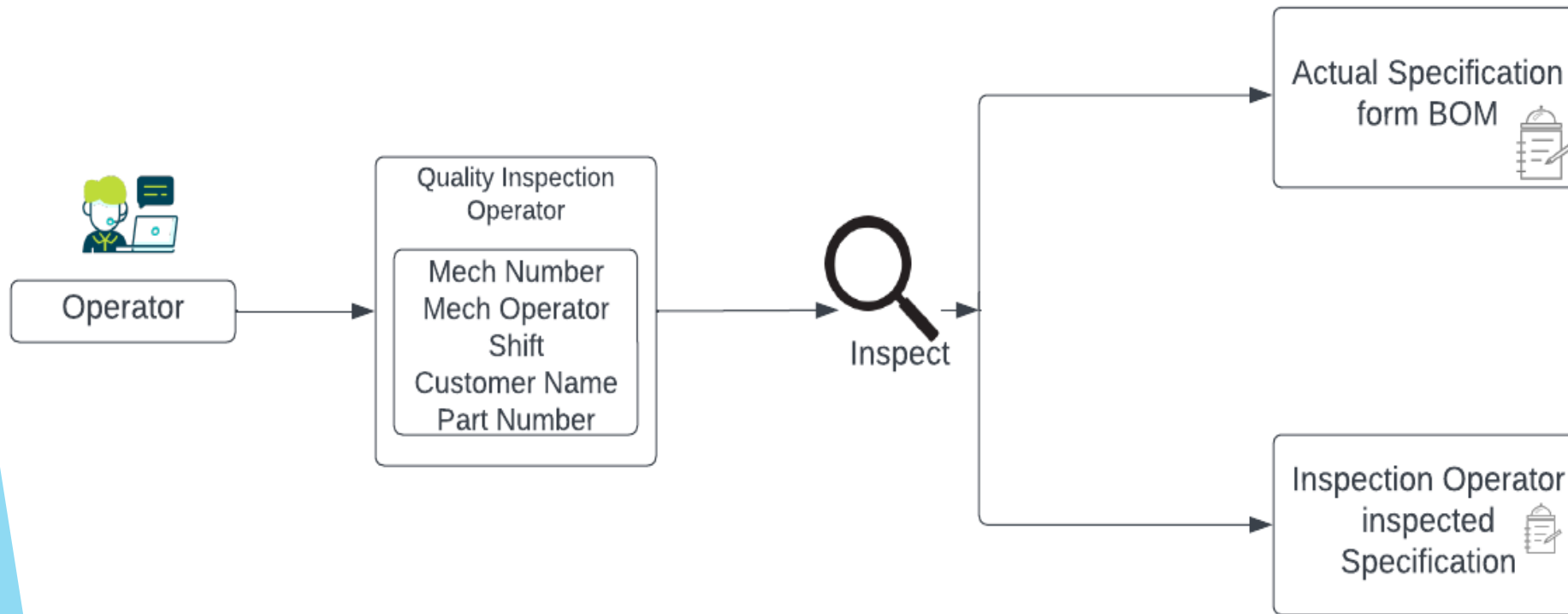
Save

Sno	Part Number	Customer	2 Drawing	3 Drawing	# of Bends	Part Qty	Total # of Bends	Time remaining	Completed	Approved	Rejected Inspection	View
1	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job
2	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job
3	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job
4	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job
5	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job
6	12345678	Eaton	view	view	20	120	Not Started	2	1	1	Inspection	View/Update job

OPERATOR RESULT

The screenshot shows a web browser window at the URL "localhost:3000/operator#". At the top, there's a header bar with a table containing job information: Job ID 6, Part Number 12345678, Customer Eaton, two links labeled "view", quantities 20 and 120, status "Not Started", counts 2 and 1, and a button labeled "Inspection". To the right of the button is another link "View/Update job". Below the header is a large white rectangular area. The main section of the page is titled "Job Details" in a light gray box. Underneath, there are several input fields arranged in pairs: "Customer" and "Date / time" (with a date-time picker showing "mm/dd/yyyy --:-- --"), "Part Number" and "#Qty Completed", and "Batch". Below these inputs are two buttons: "Start job" and "Update status". At the bottom, there are two more input fields labeled "Urgent work" and "Balance". The Windows taskbar is visible at the very bottom, showing the system clock as 1:00 PM on 6/25/2023.

QUALITY ASSURANCE ARCHITECTURE:




QUALITY ASSURANCE:

WhatsApp

React App

localhost:3000/inspection

 QA Sun Jun 25 2023 12:04:13 PM

Machine Number AC-40

Machine Operator Harish

Shift morning

Customer Harish

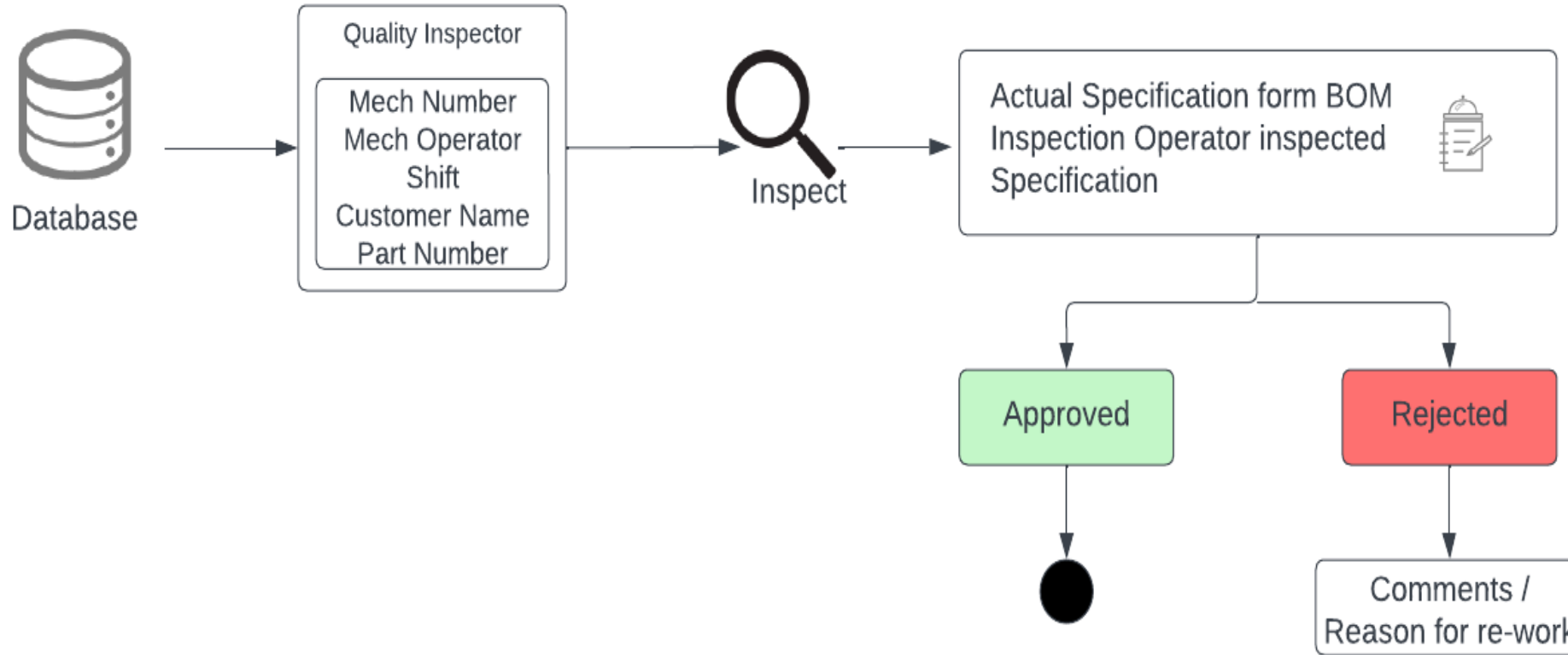
Part Number part_num

Submit

Serial Number	Specs from BOM	Actual form BOM	Ins method	Operator entry(manual entry)
1	L	3	Vernier ▾	
2	W	2	Vernier ▾	
3	H	4	Vernier ▾	
4	Hole	10	Vernier ▾	
5	Angle	90	Vernier ▾	

Submit


QUALITY CHECK ARCHITECTURE:



QUALITY CHECK:

React App

localhost:3000/inspector



QC

Tue Jul 04 2023
3:24:30 PM

Machine NumberAC-40

Machine OperatorHarish

Shiftmorning

CustomerHarish

Part Numberpart_num

Submit

Serial No	BOM Specification	BOM value	Operator Entry	Insp method	Inspector Entry	Approve/Reject	Full part approved	Comments	Reason for Re-work
1	L	3	3	Vernier ▾	3	<input checked="" type="checkbox"/> Approved	<div>Full-part Approved</div> <div><input type="radio"/> No</div>		
2	W	2	2	Vernier ▾	2	<input checked="" type="checkbox"/> Approved			
3	H	4	4	Vernier ▾	4	<input checked="" type="checkbox"/> Approved			
4	Hole	10	10	Vernier ▾	10	<input checked="" type="checkbox"/> Approved			
5	Angle	90	90	Vernier ▾	90	<input checked="" type="checkbox"/> Approved			

CONCLUSION:

- ▶ This System aimed to streamline and automate the processes.
- ▶ The implementation of this system enables a smooth flow of data and tasks throughout the manufacturing process.