Expression Document of Consignment

Feature: Implement Consignment menu in TechDiser

Sub-Goals: Create demand for consignment planning, Planning and Demands Confirm, Container Booking, Consignment Create, Consignment Order Placement

Content:

- Demand Create and Send for Planning → Chapter 1
- Planning → Chapter 2
- Container Booking → Chapter 3
- Consignment Create → Chapter 4
- Consignment Order Placement → Chapter 5

Technology and Tools: AngularJS, Javascript, HTML, CSS

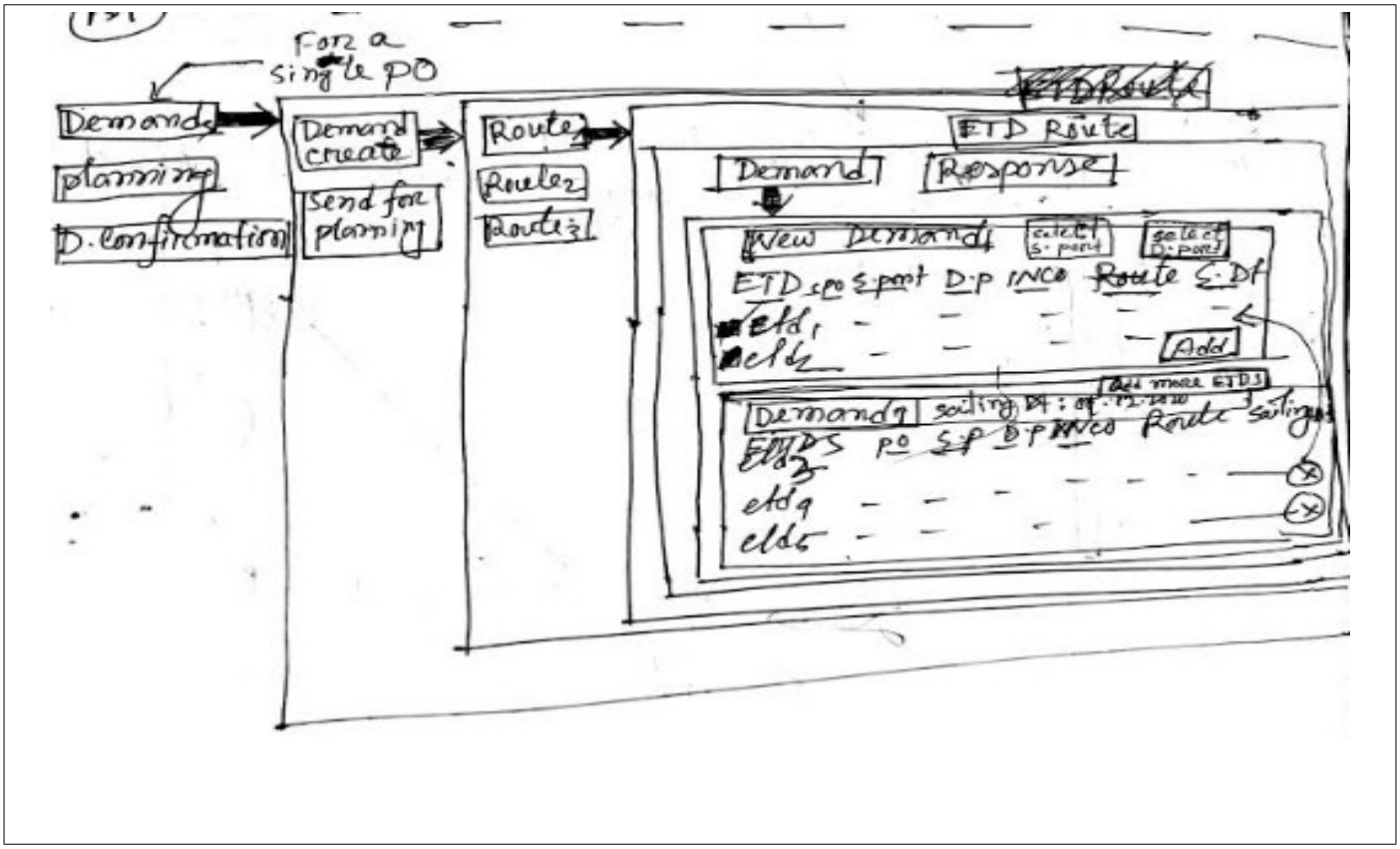
Chapter 1 : Demand Create

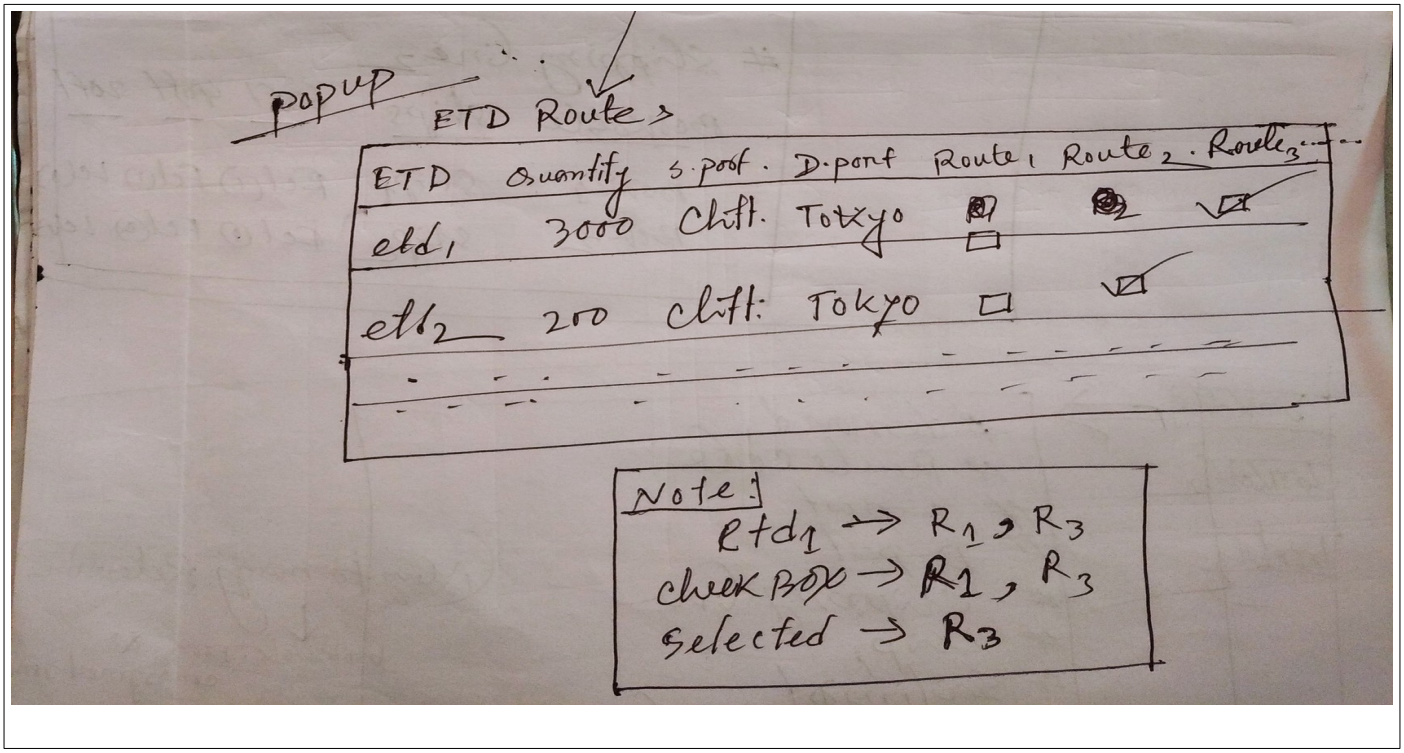
1.1 Steps and Goals: (Demand Create)

SN	Steps	Sub-Goals	Section
1.	1. Create demand 2. Send for planning	Create demand for consignment planning	Section 1

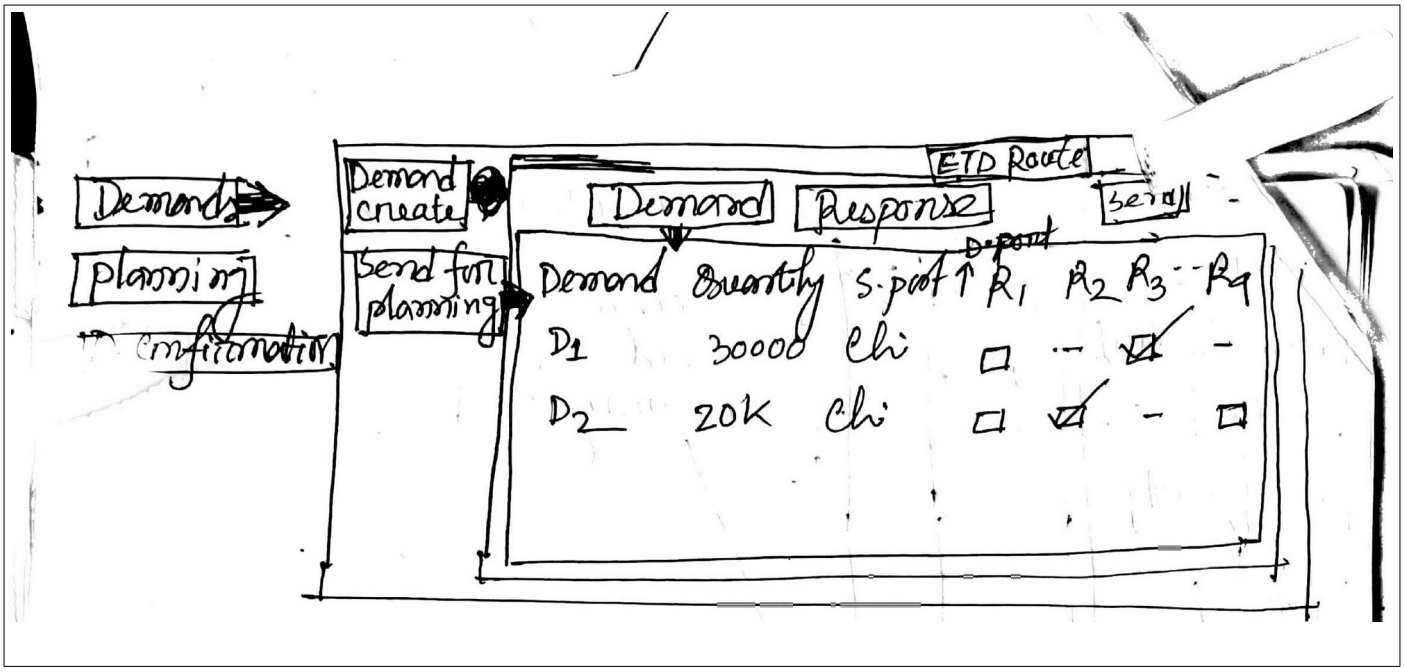
1.2 UI

1.2.1 Demand Create





1.2.2 Send for Planning



1.3 UI Work Flow

1.3.1 Create Demand Tasks

- List of demands
- Adding more ETDs into demands
- Add new demand

1.3.2 Send for Planning Tasks

- List of demands
- Demands vs Routes matrix view
- Send for planning

1.4 UI Routing

- Demands (Menu) → Create Demand (Sub menu)→ Route info menu→ Demands (Tab)
- Demands (Menu) → Send for Planning (Sub menu)→ Demands (Tab)

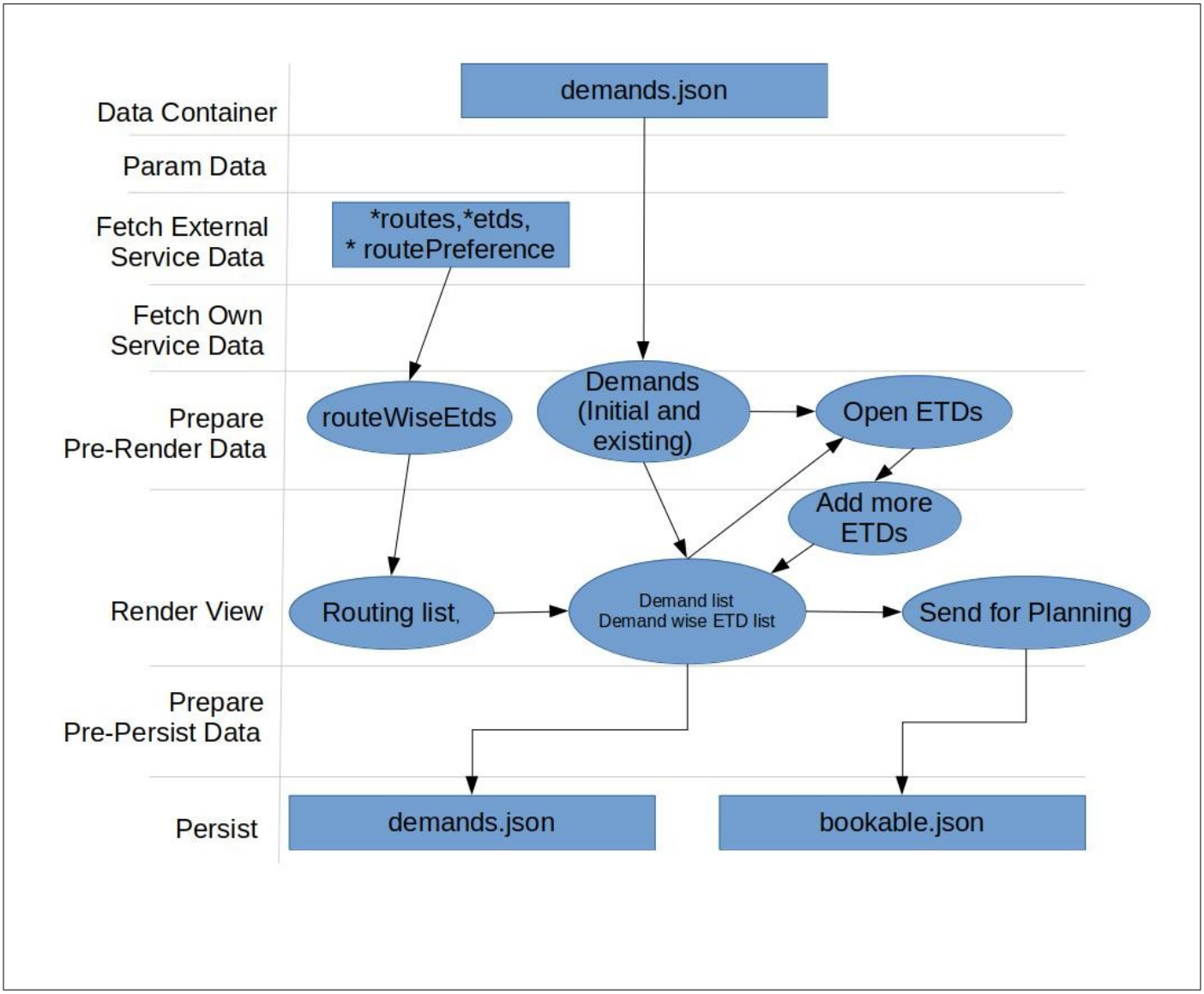
1.5 Expression Table

SN	Title	Content
1.	External Dependencies	*routes,*list of etds, *route preference
2.	Business Constraints	1. Demand will be created for a route and route itself has weekdays 2. Sailing date of demand : Selected ETDs → latest sailing date → & selected routing → nearest week deport date 3. Add “Add more etds” on the right of demand header so that user can add more etds to a particular demand. Filter etd options based on demand’s s.port,d.port and shipment mode. It’s a popup. 4. While creating new demand first take s.port,d.port and shipment mode then show the etds matching the provided s.port,d.port and shipment mode.
3.	Technical Constraints	

4.	Functions	A) Prepare Routes and its ETDs 1. Fetch PO ETDs 2. Fetch routes Prepared Route ETDs based on etd's sail, destination ports and shipment mode match to the route's sail,destination,transition ports and shipment mode 3. Show the routes with ETDs in route info menu 4. Consider only the ETDs of the selected route in creating demands B) Initially create demands based on etd sailing port,etd d.port, etd sailing date and shipment mode(if multiple matches fund , put the etd in the route found from route preference otherwise place it as open etd). So while creating demands group it by route, etd s.port, etd d.port, etd sailing date and shipment mode.
5.	Findings	1. Route itself has weekdays 2. Finding sailing date seems not okay
6.	Unexplored Issue	
7.	Deliverable	1. Prepare demands for consignment planning
8.	Notes	Landed with PO Operator: merchandizer Route card : add→ s.port,d.port,transition port codes, ETD list : add columns (quantity,sailing date) Add checkbox to new demand section, New demand will be created with the selected ETDs, initially all ETDs will be unselected. Rename booking to bookable

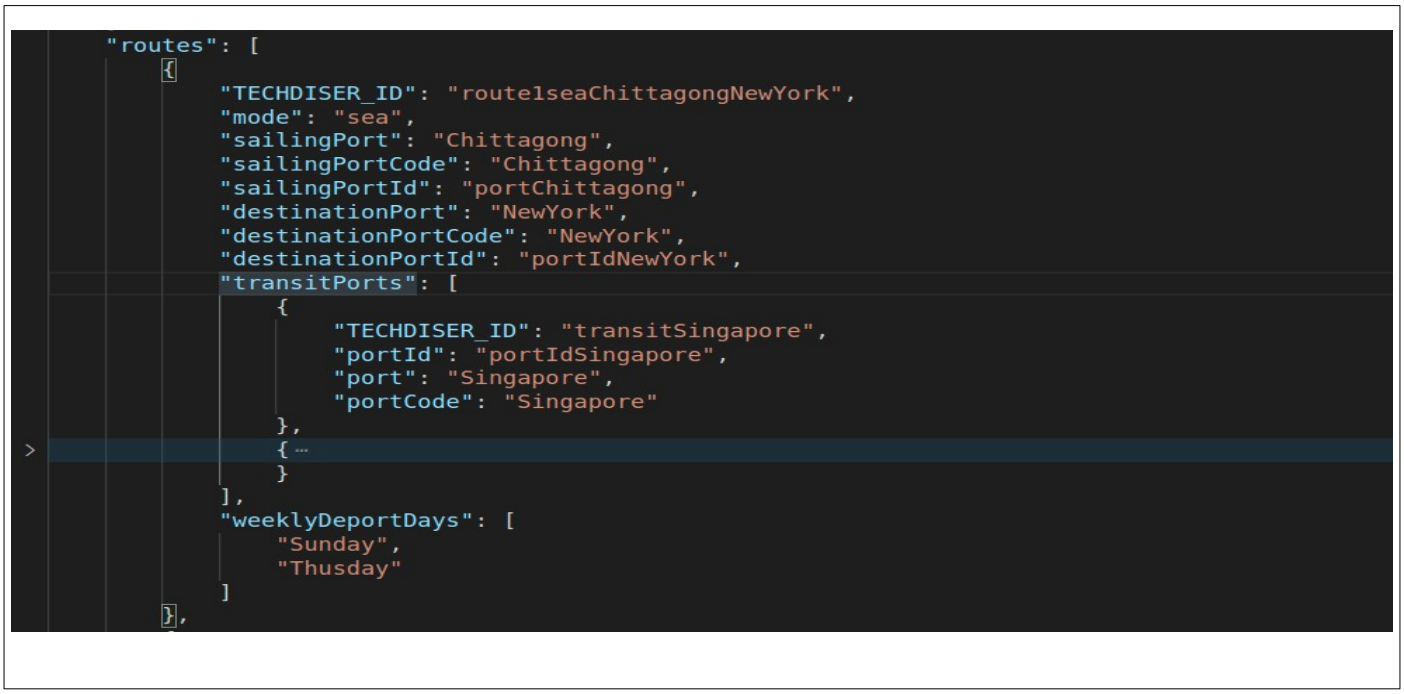
9.	Questions	

1.6 Operation Flow



1.7 Data Structure

1.7.1 Mock Data (* Route ,* ETDs and *PreferedRouteMock)



```
"routes": [
    {
        "TECHDISER_ID": "route1seaChittagongNewYork",
        "mode": "sea",
        "sailingPort": "Chittagong",
        "sailingPortCode": "Chittagong",
        "sailingPortId": "portChittagong",
        "destinationPort": "NewYork",
        "destinationPortCode": "NewYork",
        "destinationPortId": "portIdNewYork",
        "transitPorts": [
            {
                "TECHDISER_ID": "transitSingapore",
                "portId": "portIdSingapore",
                "port": "Singapore",
                "portCode": "Singapore"
            },
            {…
            }
        ],
        "weeklyDeportDays": [
            "Sunday",
            "Thusday"
        ]
    },
```

```
"etds": [
    {
        "TECHDISER_ID": "PO1ETD1",
        "poId": "PO1",
        "etd": "2020.01.01",
        "sailingDt": "2020.01.07",
        "sailingPortId": "portChittagong",
        "destinationPortId": "portIdNewYork",
        "quantity": "30000",
        "inco": "FOB",
        "shipmentMode": "sea",
        "packaging": {
            "packagingTypeId": "packagingTypeId1",
            "space": "2x2x1.5",
            "prefix": "",
            "unit": "feet"
        },
        "projectInfo": [
            {
                "projectId": "project1",
                "quantity": "10000",
                "numberOfPackets": "50"
            },
            {
                "projectId": "project2",
                "quantity": "20000",
                "numberOfPackets": "100"
            }
        ]
    },
```

```
"preferedRoutesMock": [
    {
        "TECHDISER_ID": "preferedRoute1",
        "mode": "sea",
        "sailingPortId": "portChittagong",
        "destinationPortId": "portIdNewYork",
        "preferedRouteId": "route1seaChittagongTokyo"
    }
]
```

1.8 Data and Data Save Path (Demand Create)

1.8.1 Save Demands

Task : Demand Create

JSON : demand.json

Path : /

Sample Data :

1.8.2 Save Bookables

Task : Send for planning

JSON : bookables.json

Path : /

Sample Data :

1.9 Derivation:

View Component	UI Routing	Json/Mock	Path
List of Route (Info menu)	Planning (menu)→ List of Route (Info menu)	*Route	
		*ETDs	
Create demand (Initial/ existing)			

1.10 Technical Workout

Workspace	Components /Controllers	Data fetch	View data preparation	Event/ Operations	In-memory/ save data
List of routes	Route(Info menu)	1. *route 2. In memory			In memory
Demand create	List of demands	1.demand.json/ 2. *ETDs	View data preparation for list of demands	Viewing list of demands	demand.json/
	Add new demand			Creating new demand	demand.json/
Send for planning	List of demand (send for planning)	1.demand.json/ 2.bookable.json/	View data preparation for list of demands	Check box for sending demand	bookable.json/

1.11 Time Estimation: Total time 23 hrs / 3 working days

Sl. #	Menu/Sub-menu	Component	Task Hints	Time
1.	Demand Create (Sub menu)	Info men	Mock data prepare (Route,etds,shipping lines) ,List of routes	3 hrs
		Demand creates	Filter demand using s.port and d.port,	2 hrs
		Remove ETDs from demand	Remove etds and reassign to (?)	0 hrs
		Create new demand	Filtered by s.port, d.port	1 hrs
		Response tab (all)		3 hr
		Etd Route (popup)	Route vs ETD matrix	3 hr
2.	Send for planning (sub menu)	Route vs demand matrix		2 hr
3.		Common services and other stuffs	Mgt services, data services, id gen for demand.json and bookable.json	1 working day

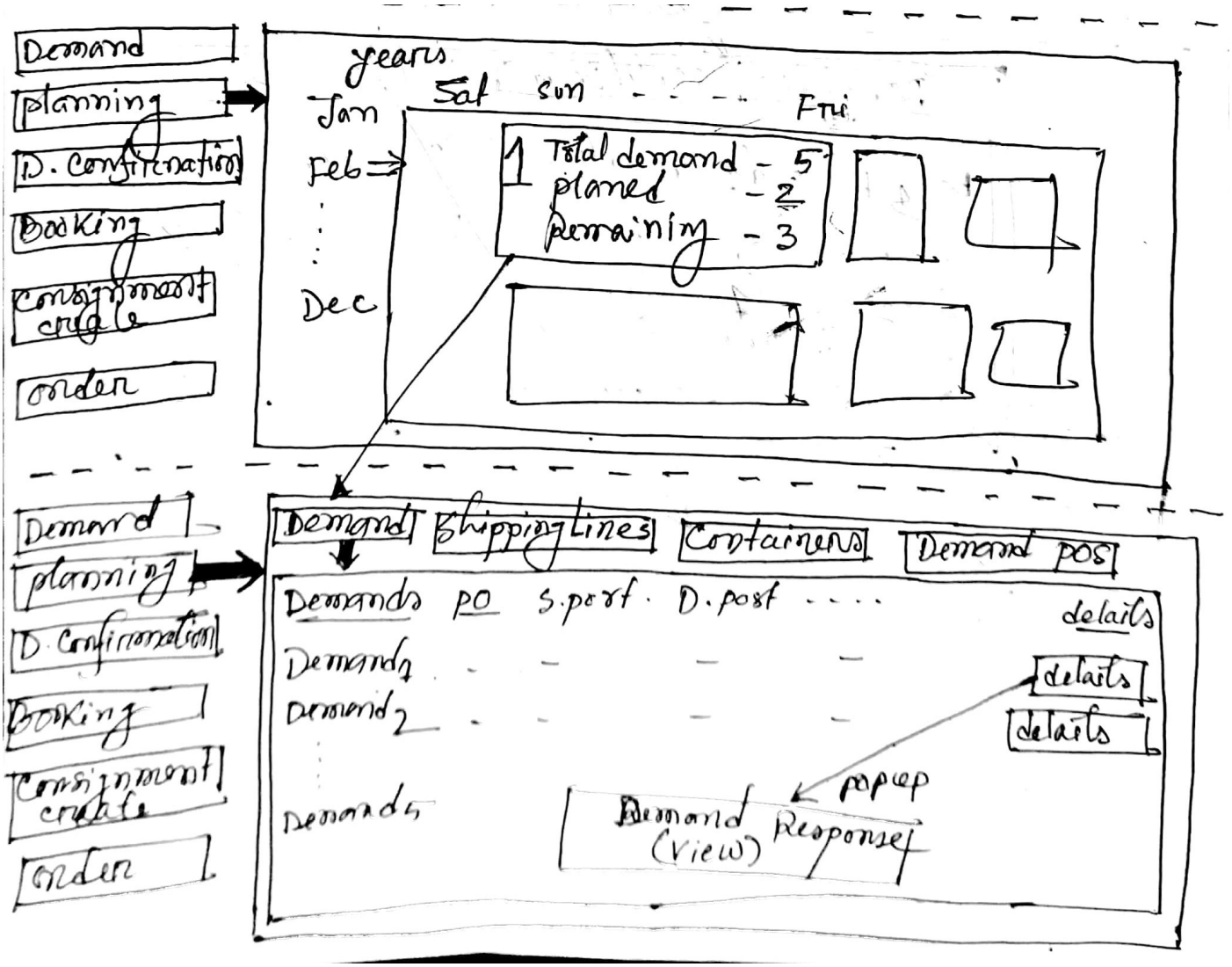
Chapter 2 : Planning

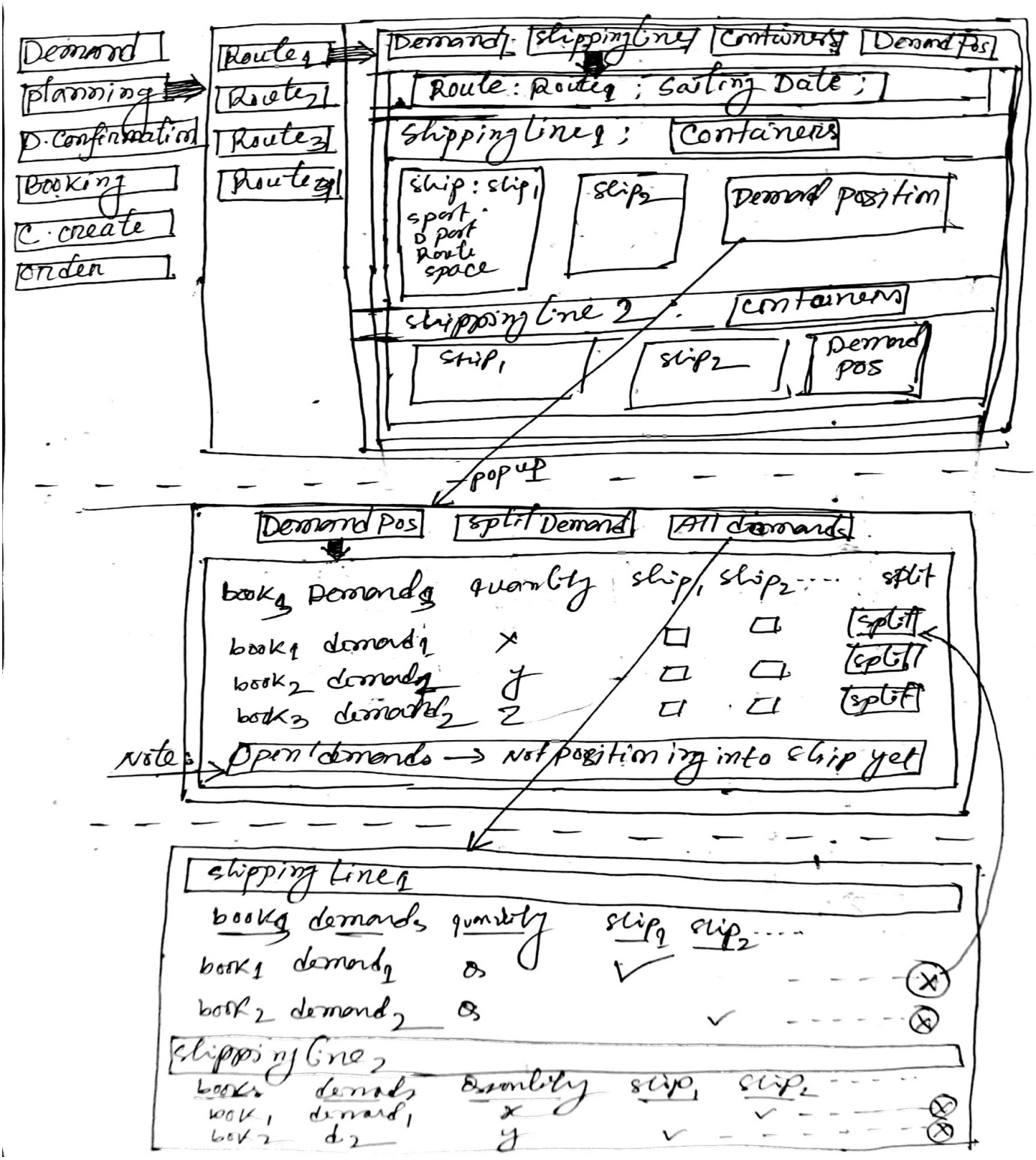
2.1 Steps and Goals: (Planning)

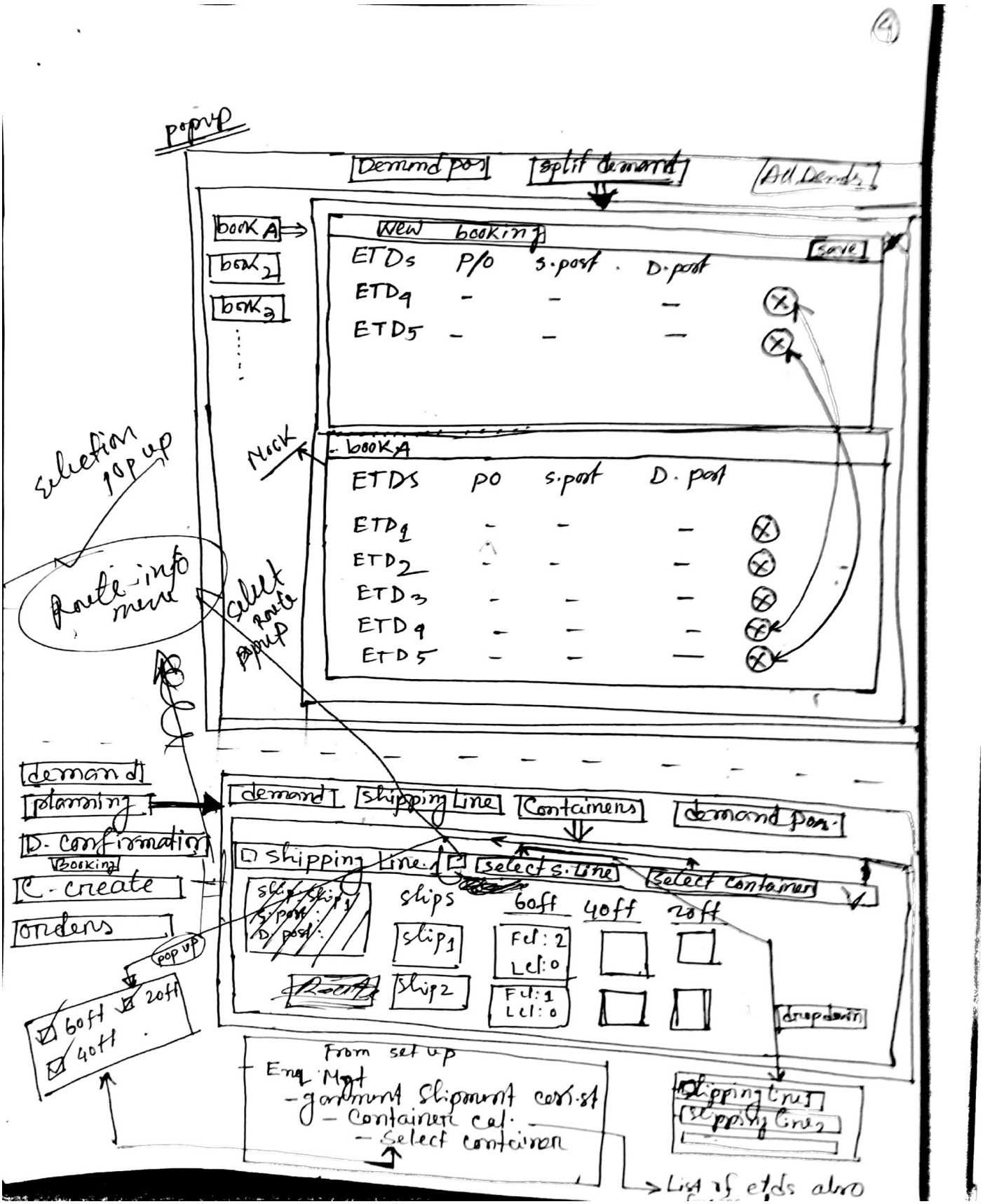
SN	Steps	Sub-Goals	Section
1.	1. Calendar view	Planning	Section 2
2.	1. Viewing demands with response (demand tab) 2. Viewing ship wise bookables (shipping lines tab) 3. Assigning bookable into ship (Demand Pos. popup) 4. Splitting demand (Split demands popup) 5. Viewing all demand as per shipping line (All demands popup) 6. Ship and container wise FCL and LCL counting (Containers) 7. Bookable positioning into FCL (DemandPos.(FCL)) 8. Bookable positioning into LCL		

2.2 UI

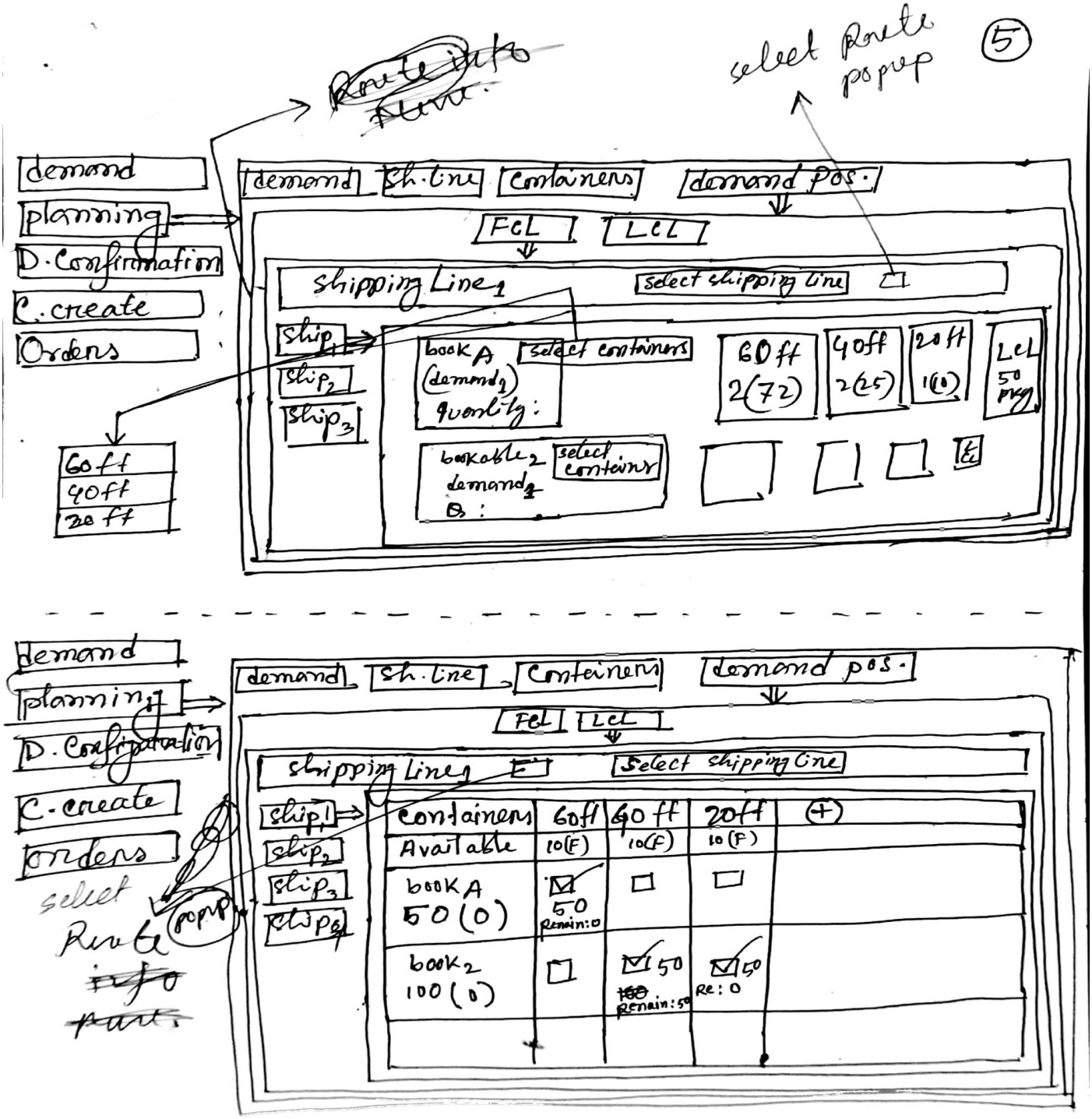
2.2.1 Planning UI




Demand planning
D. Confirmation
Booking
C. create order
Route1
Route2
Route3
Route4
Demand
Shipping Line
Containers
Demand Pos
Route : Route1 ; Sailing Date ;
Shipping Line 1 ;
Containers
ship : ship1
sport
D port
Route space
ship2
Demand position
Shipping Line 2
containers
ship1
ship2
Demand pos
pop up
Demand Pos
split Demand
All demands
book3 Demand3 quantity ship1 ship2 .... split
book1 demand1 x split
book2 demand2 y split
book3 demand2 z split
Note: Open demands → Not positioning into ship yet
Shipping Line1
book1 demand1 8
book2 demand2 8
Shipping Line2
book1 demand1 x
book2 d2 y



popup
Demand pos
split demand
All Demds
book A
book 2
book 3
New booking
save
ETDs P/O S.post D.post
ETD4
ETD5
Nook
book A
ETDS PO S.post D.post
ETD1
ETD2
ETD3
ETD4
ETD5
selection pop up
Route info menu
select route popup
demand
planning
D. confirmation
Booking
C. create
orders
demand
shipping Line
Containers
demand pos.
shipping Line 1
select S. Line
select container
ships
60ft
40ft
20ft
slip1
Fcl: 2
Lcl: 0
Slip2
Fcl: 1
Lcl: 0
pop up
60ft
20ft
40ft
dropdown
From set up
Enq Mgt
- garment Shipment cost
- Container cal.
- Select container
Shipping Line 1
Shipping Line 2
List of etds also



Note: i) (i−1th) container Remain → ith container value

ii) delete (unselect) impact ith container → Will be impact of its forword containers

2.3 UI Work Flow

2.3.1 Calendar view Tasks (Planning → Landing Page-Calendar)

- Total demands
- Planned
- Remained

2.3.2 View demands with response Tasks (Planning → demand tab)

1. List of demands(with PO & route code)
2. Demand response details

2.3.3 View ship wise bookables Tasks (Planning → shipping lines tab)

1. List of routes
2. List of shipping lines
3. Demand positioning into ship(popup)
4. switch to container tab for this shipping line

2.3.4 Assigning bookable into ship Task (Planning → Demand Pos. popup))

1. List of bookable(open demands)
2. Bookable (open bookables) vs ship matrix
3. list of ships for a specific shipping line
4. Assigning bookable into ship
5. Switch to split demand tab

2.3.5 Splitting demand Tasks (Planning → Split demands popup)

1. List of bookable
2. Positioning ETD into bookable

2.3.6 Viewing all demand (Shipping line wise) Task (Planning → All demands popup)

1. List of shipping lines
2. List of bookable
3. List of ships for a specific shipping line

2.3.7 Ship and container wise FCL and LCL counting Task (Planning → Containers)

1. Select route(popup)
2. Select shipping line(drop down)

2.3.8 Bookable positioning into FCL (max level packing wise) Tasks (Planning → DemandPos.(FCL))

1. Select route(popup)
2. Select shipping line(drop down)

3. List of ships for a specific shipping line
4. List of bookable for a specific ship

2.3.9 Bookable positioning into LCL (max level packing wise) Tasks (Demand → Confirmation)

1. List of bookable
2. Confirm demand

2.4 UI Routing

2.4.1 Planning → Landing Page-Calendar

- Planning → Calender

2.4.2 Planning → demand tab

- Planning → List of tabs(horizontally) → Demands(tab)

2.4.3 Planning → shipping lines tab

- Planning → List of tabs(horizontally) → ShippingLines(tab) → List of routes → ShippingLines

2.4.4 Planning → Demand Pos. popup

- Planning → List of tabs(horizontally) → ShippingLines(tab) → List of routes → ShippingLines
- Demand positioning(popup) → List of tabs → Demands tab(Selected)

2.4.5 Planning → Split demands popup

- Planning → List of tabs(horizontally) → ShippingLines(tab) → List of routes → ShippingLines
- Demand positioning(popup) → List of tabs(horizontally) → Split Demand → List of bookable

2.4.6 Planning → All demands popup

- Planning → List of tabs(horizontally) → ShippingLines(tab) → List of routes → ShippingLines
- Demand positioning(popup) → List of tabs(horizontally) → All Demand → List of shipping lines

2.4.7 Planning → Containers

- Planning → List of tabs(horizontally) → Containers(tab) → Select routes → Select ShippingLines

2.4.8 Planning → DemandPos.(FCL)

- lanning → List of tabs(horizontally) → Demand Pos.(tab) → FCL(tab) → Select routes → Select ShippingLines → List of ships

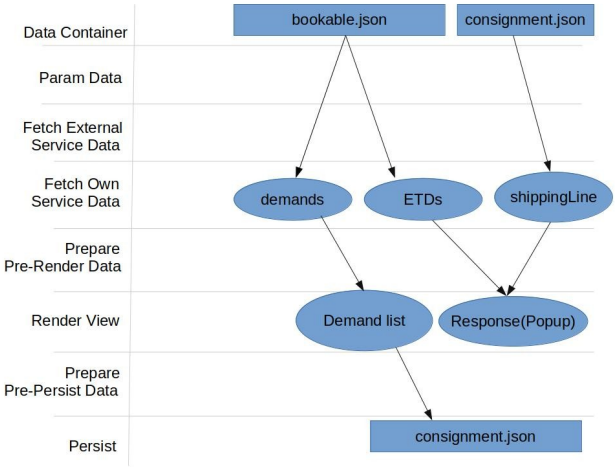
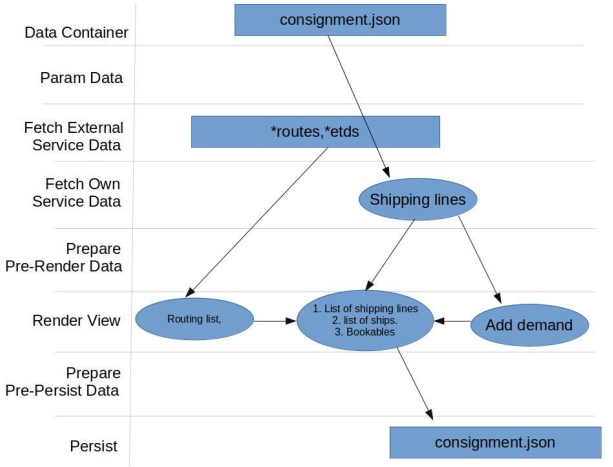
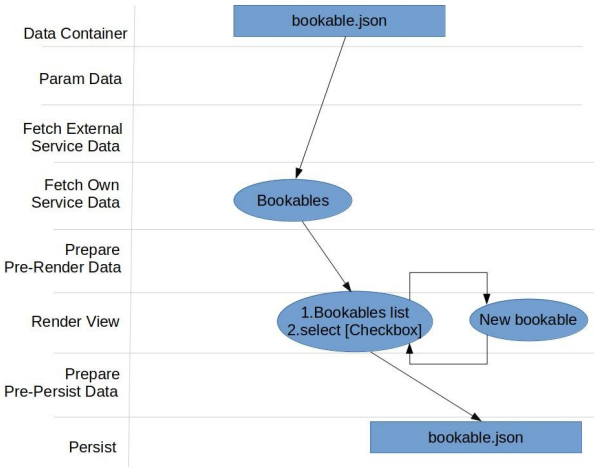
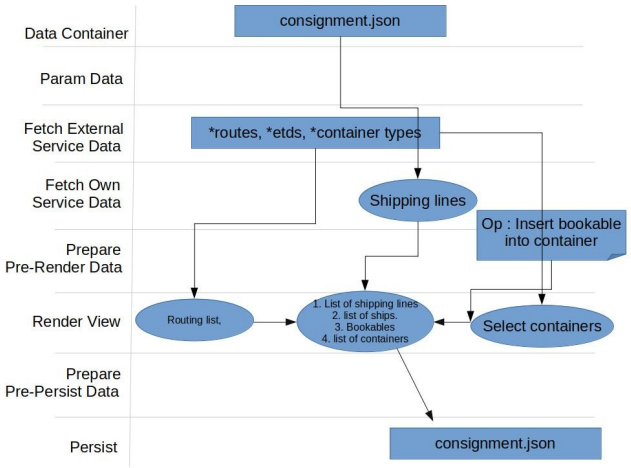
2.5 Expression Table

SN	Title		Content
1.	External Dependencies		Bookables
2.	Business Constraints		1. Landing page is a calendar . Bookables will be filtered based on calendar date (matching with sailing date). 2. Bookable will be read for multiple PO 3. In demand pos. tab : List of open bookable those are not positioned into ship yet
3.	Technical Constraints	Planning(landing page)	demand will be read for all PO and all routes(demand tab)
		demand(tab)	
		ShippingLine → Demand Pos.(pop up)	List of bookable (Open) that means those demands which haven’t positioned yet into ship.

		ShippingLine → Split Demand (pop up)	Q. when split bookable will be updated ? Q. what is the policy of undoing split?
		Planning → Container (tab)	All space will be measured into feet (Container & Packet)
		FCL (tab)	
		LCL (tab)	
4.	Functions	Planning(landing page)	
		demand(tab)	
		ShippingLine → Demand Pos.(pop up)	

		ShippingLine → Split Demand (pop up)	
		Planning → Container (tab)	
		FCL (tab)	
		LCL (tab)	
5.	Findings		
6.	Unexplored Issue		
7.	Deliverable		Prepare demands for planning

2.6 Operation Flow

Demand list view	Positioning bookable to ship
	
Packet positioning into FCL	**Packet positioning into LCL**
	

2.7 Data Structure

2.7.1 Mock Data

```
"routeWiseShippingLineMock": [
    {
        "TECHDISER_ID": "route1seaChittagongNewYork",
        "shippingLines": [
            {
                "TECHDISER_ID": "shippingLine1",
                "shippingLineTitle": "shippingLineTitle1",
                "routeId": "route1seaChittagongNewYork",
                "ships": [
                    {
                        "TECHDISER_ID": "ship1",
                        "shipTitle": "Ship 1"
                    },
                    {
                        "TECHDISER_ID": "ship2",
                        "shipTitle": "Ship 2"
                    }
                ]
            }
        ]
    }
```

2.7.2 Final Data Structure (Planning)

2.8 Derivation:

View Component	UI Routing	Json	Path
calendar	Planning→ calendar	bookable.json	bookable.json/
List of bookables	Planning→ demand tab	bookable.json	bookable.json/
Demand response	Planning→ demand tab	consignment.json	consignment.json/
List of routes	Planning→ shipping line tab	*routes	*route/
List of shipping lines	Planning→ shipping line tab	*routes	*routes/shippingLines
List of ships	Planning→ shipping line tab→ DemandPos. tab(popup)	*routes	*routes/shippingLines/ ships
Select container type(popup)	Planning→ Container tab	*containerType	*containerType/

2.9 Data Flow Diagram (DFD)

2.9.1 Data and Data Save Path

Task : Planning→ Shipping Line (tab)
JSON : consignment.json

Path : /

Sample Data :

2.9.2 Data and Data Save Path

Task : Planning→ Shipping Line→ Split demand (Pop up)
JSON : bookable.json

Path : /

Sample Data :

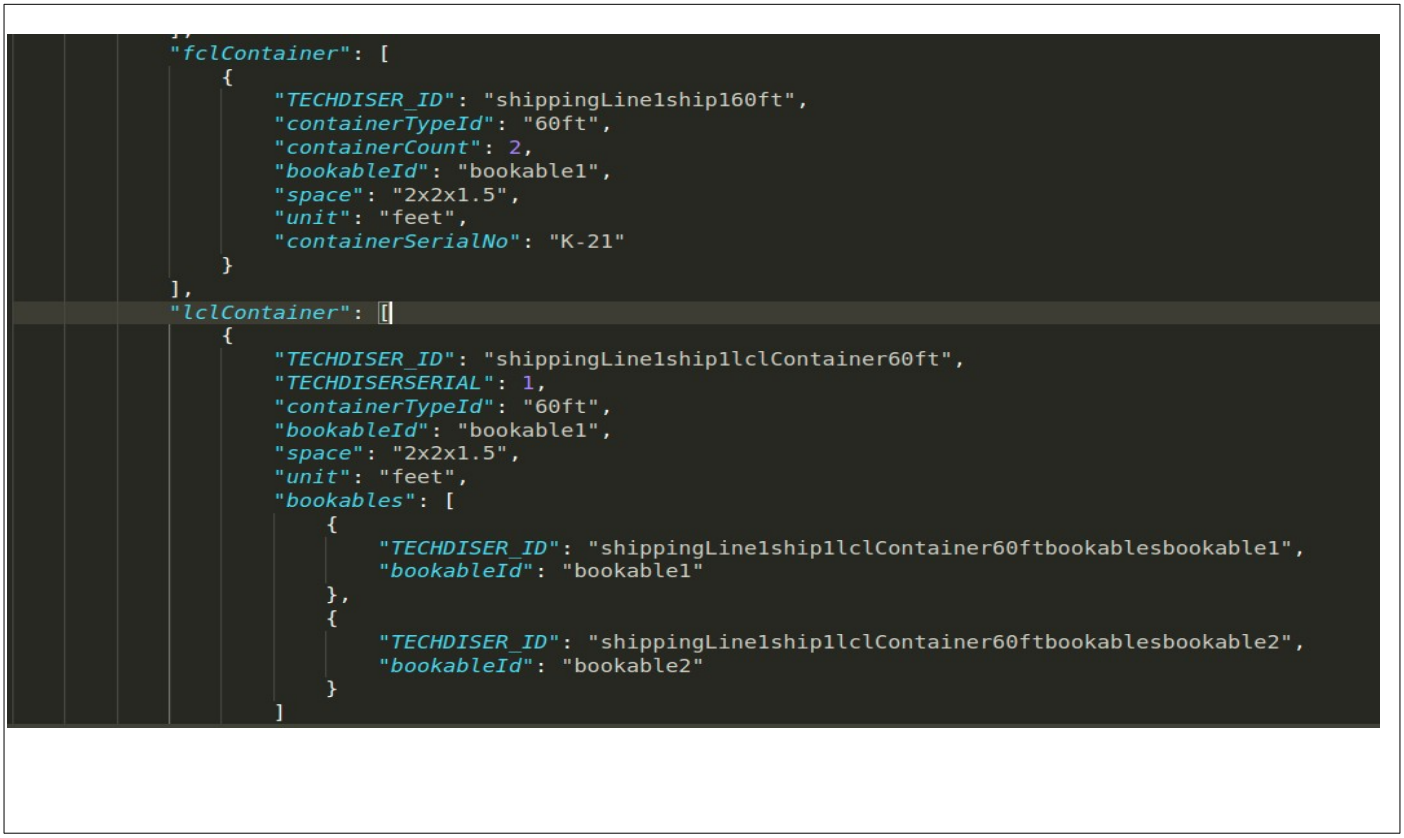
```
{
    "TECHDISER_ID": "po1demand1bookable1",
    "demand": "Demand 1",
    "demandId": "demand1",
    "bookable": "Bookable 1",
    "etdIds": [
        "etd1",
        "etd2",
        "etd3"
    ],
    "workFlow": {
        "isConfirm": 0,
        "isBooked": 0
    }
}
```

2.9.3 Data and Data Save Path

Task : Planning→ Containers
JSON : consignment.json

1. Path : /[id]/fclContainer
2. Path : /[id]/lclContainer

Sample Data :



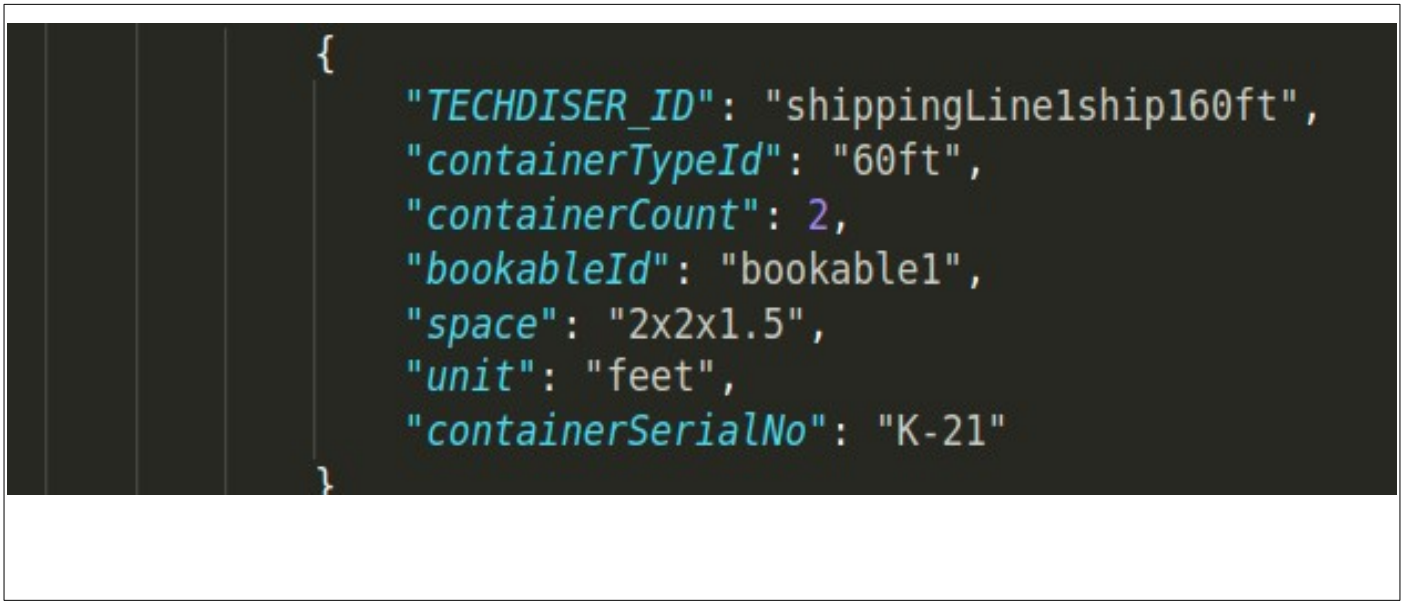
```
        "fclContainer": [
            {
                "TECHDISER_ID": "shippingLine1ship160ft",
                "containerTypeId": "60ft",
                "containerCount": 2,
                "bookableId": "bookable1",
                "space": "2x2x1.5",
                "unit": "feet",
                "containerSerialNo": "K-21"
            }
        ],
        "lclContainer": []
            {
                "TECHDISER_ID": "shippingLine1ship1lclContainer60ft",
                "TECHDISERSERIAL": 1,
                "containerTypeId": "60ft",
                "bookableId": "bookable1",
                "space": "2x2x1.5",
                "unit": "feet",
                "bookables": [
                    {
                        "TECHDISER_ID": "shippingLine1ship1lclContainer60ftbookablesbookable1",
                        "bookableId": "bookable1"
                    },
                    {
                        "TECHDISER_ID": "shippingLine1ship1lclContainer60ftbookablesbookable2",
                        "bookableId": "bookable2"
                    }
                ]
```

2.9.4 Data and Data Save Path

Task : Planning → Demand Pos. → FCL
JSON : consignment.json

1. Path : /[id]/fclContainer

Sample Data :



2.9.5 Data and Data Save Path

Task : Planning → Demand Pos. → LCL
JSON : consignment.json

1. Path : /[id]/lclContainer

Sample Data :

```
{
    "TECHDISER_ID": "shippingLine1ship1lclContainer60ft",
    "TECHDISERSERIAL": 1,
    "containerTypeId": "60ft",
    "bookableId": "bookable1",
    "space": "2x2x1.5",
    "unit": "feet",
    "bookables": [
        {
            "TECHDISER_ID": "shippingLine1ship1lclContainer60ftbookablesbookable1",
            "bookableId": "bookable1"
        },
        {
            "TECHDISER_ID": "shippingLine1ship1lclContainer60ftbookablesbookable2",
            "bookableId": "bookable2"
        }
    ]
```


2.10 Technical Workout

Workspace	Components /Controllers	Data fetch	View data preparation	Event/ Operations	In-memory/ save data
planning(landing page)	calendar	bookable.json/	View data preparation for calendar	Viewing total demands	In memory
planning(demand tab)	List of bookable	1.bookable.json 2.consignment.json/	View data preparation for list of bookable		consignment.json/
	Button(details)	consignment.json/	View data preparation for response	popup	In memory
planning(shipping line tab)	List of routes	1. *route	View data preparation for list routes	view list of shipping lines for onClick event	In memory
	List of shipping lines	1.*routes/ shippingLines	View data preparation for list of shipping lines	view list of ships for onClick event	In memory
	List of ships & container info	1.consignment.json/fclContainer 2.consignment.js	View data preparation for list of ships		1.consignment.json/fclContainer 2.consignment.js

		on/fclContainer			on/fclContainer
Planning→ shipping line tab→ DemandPos. tab(popup)	List of bookable	bookable.json/	View data preparation for list of bookable		In memory
	List of ships	1.*routes/ shippingLines/ ships	View data preparation for list of ships	Bookable allotment into ship	In memory
	Insert bookable into ship			Check On	1.consignment.json[id(shippingLine)]/bookables
Planning→ shipping line tab→ Split demand tab(popup)	List of bookable	bookable.json/		Split bookable	bookable.json/
Planning→ shipping line tab→ All demand tab(popup)	List of shipping line	consignment/ shippingLines/ shippingLines			consignment/ planning /shippingLines/shippingLines
	List of bookable	consignment.json/bookables			In memory
	List of ships	consignment.json/			In memory
Planning→ Container Tab	Select route(popup)	1. *route	View data preparation for route	Select route	In memory
	Select shipping line(drop down)	1.consignment.json	View data preparation for shipping line	Select shipping line	In memory
	Select container type(popup)	1.*containerType/	View data preparation for container type	Select container type	In memory
	Ship wise container type count	1.consignment.json/fclContainer 2.consignment.json/fclContainer	View data preparation for list of ships wise container count	Create FCL and LCL container	1.consignment.json/fclContainer 2.consignment.json/fclContainer
Planning→ Demand Pos. Tab	Select route(popup)	1. *route	View data preparation for route	Select route	In memory

	Select shipping line(drop down)	1.consignment.json	View data preparation for shipping line	Select shipping line	In memory
	Select container type(popup)	1.*containerType	View data preparation for container type	Select container type	In memory
	List of ships	consignment.json/			In memory
	List of bookable	consignment.json/bookables			In memory
	Bookable positioning (FCL Tab)	1.consignment.json/fclContainer/[container id]		Insert bookable into FCL container	1.consignment.json/fclContainer/[container id]
	Bookable positioning (LCL Tab)	1.consignment.json/lclContainer/[container id]		Insert bookable into LCL container	1.consignment.json/lclContainer/[container id]

2.11 Time Estimation: Total time 31 hrs / 4 working days

Sl. #	Menu/Sub-menu	Component	Task Hints	Time
1.	Planning (Menu) → Calendar	Calendar view	Prepare calendar and data preparation	4hr
2.	Planning (Menu) → Demand (Tab)	Demand list with response view	Demand list with response view	(1.5 + 2) hr
3.	Planning (Menu) → Shipping line (Tab)	Info menu (Route), shipping line work space		3 hr
4.	Planning (Menu) → Shipping line (Tab) → demand pos(tab)	Demand pos. tab	Ship vs bookable matrix, assigning bookable into ship	4 hr
5.	Planning (Menu) → Shipping line (Tab) → Split demandtab)	Split demand tab	Info menu (Bookables), create new bookable,	2.5 hr
6.	Planning (Menu) → Container (Tab)	Containers tab	Select route drop down, select shipping line drop down, ship wise container view	3hr
7.	Planning (Menu) → Demand pos. (Tab)	FCL tab	Select route & select shipping line drop down, info menu (ship), bookable card,select container drop down, convert quantity to max level packet and insert into container	5hr

8.	Planning (Menu) → Demand pos. (Tab)	LCL tab	Select route & select shipping line drop down, info menu (ship), bookable card,add container, calculate residue, convert quantity to max level packet and insert into container ,calculate remaining	5hr
9.		Id for consignment and data preparation		1hr