Restaurant Management System

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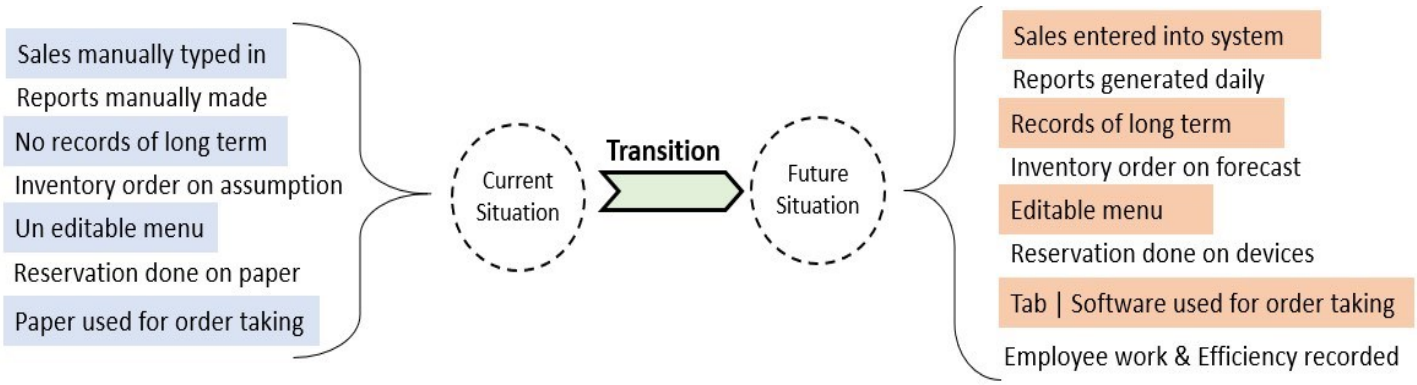
CONTENTS

PROJECT PROBLEM STATEMENT

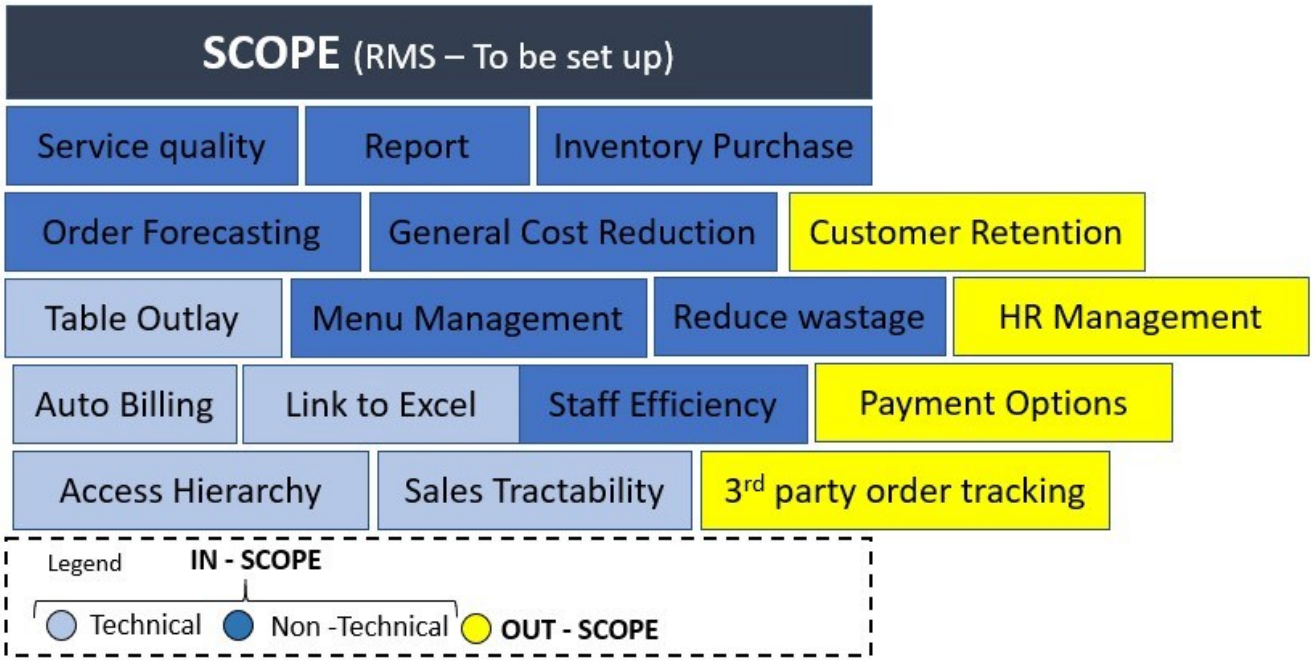
Restaurant chain of Jaime Oliver is planning to improve their business as in a whole by changing in accordance with the modern era by implementing/adapting something close to a Restaurant Management System to make their operations linked and efficient. Lately they have been using paper to take order which had made it difficult for hosts/waiters to take customer orders, claim their work hour, number of tables waited etc. This also in turn has been a equivalently troubling matter for the upper management, they have not been able to generate daily reports or track the operations and efficiency of the workforce. Above all they were finding it tedious to record daily data and forecast which had a huge impact on their strategizing and inventory orders.

Why & How the scope is expected to impact?



This points to a generic expected change or transition points to be addressed during the change both in a technical aspect and non-technical.

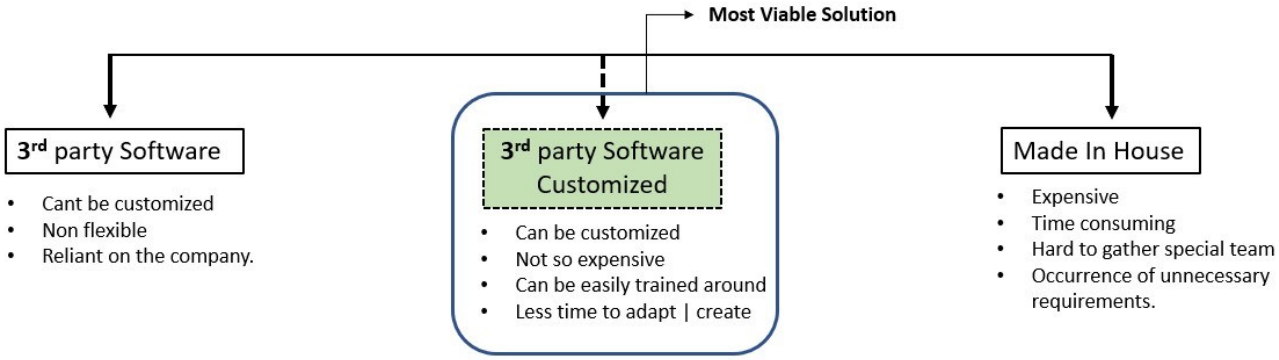
SCOPE OF RMS



The in scope is categorized into technical and non-technical to stress the level of importance given on each category in a strategy and financial perspective.

As it is vivid from the illustration the scope fits into an upgrade or modernization which is aimed at the efficiency and convenience of the workers and the management within the particular environment more than a quick monetary/financial growth or incentive. This moves in as a long-term perspective to create a streamlined enclosed environment to share info and data for the smoot establishment of managerial aspects and strategical changes in accordance with the forecasted data.

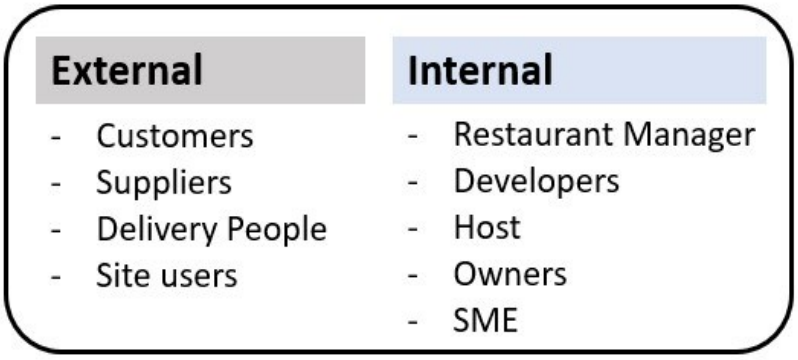
SOLUTION – most suitable option



Why a 3rd party customized? Why not In-House the answer and the reason to choose the 3rd party customization as an option rest on 4 level.

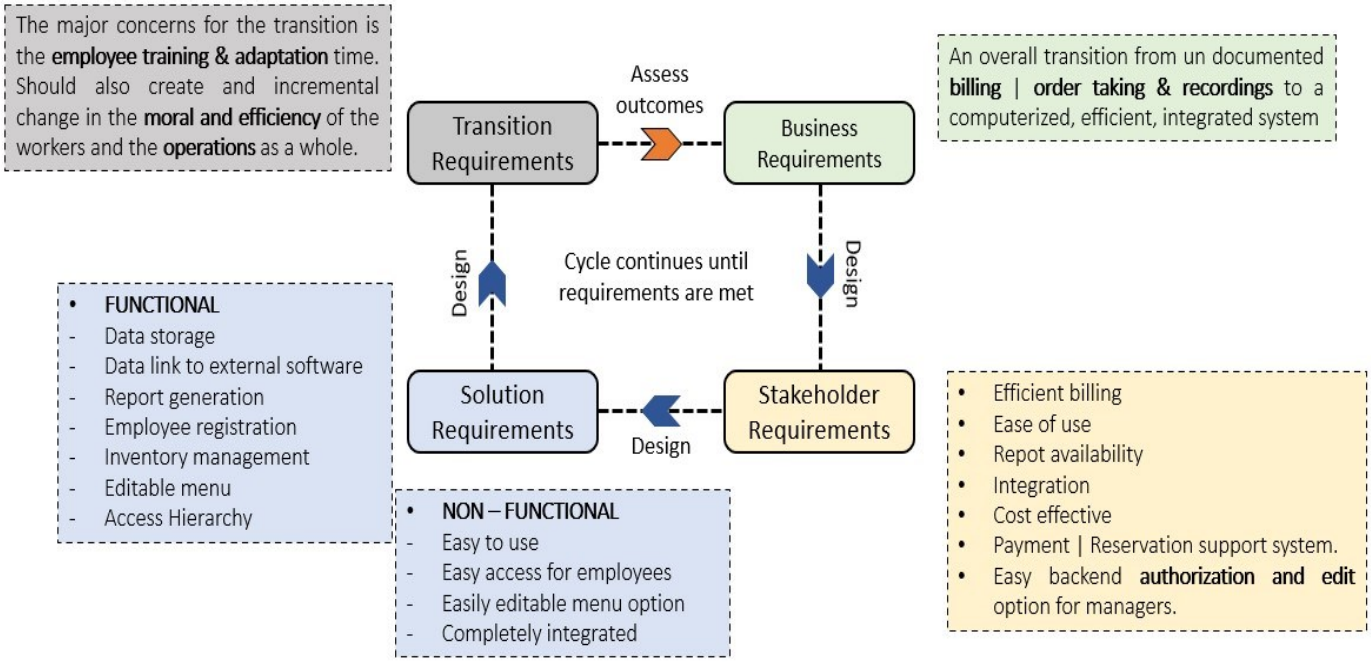
Expense | Customization Options | Time | Resources – An in-house made software even though will be the best option considering the level of customization and tweaks that can be done to it, at the same time evaluating all the requirements have brought into light that these can be satisfied with minor changes that will *perfectly fit in within the environment desired and with the price and capability of existing RMS in the market*. Above all the **resources** [*Time & Developers*] will be rendered useless once the solution is made. So, it's best to go with the existing parties and get it customized to fit our requirements.

STAKEHOLDERS



Our solution though has changed the way that we perceive out Stakeholder situation and categorization to and extend, the purpose of the assessment and end goal still requires the active involvement of all these technical parties even though leased from a 3rd party. Once the solution is perfectly implemented the external stakeholders like developers or the training team will be considered as external stakeholders since they no longer directly benefit from the usage or change created by the system but are aiding the smoot running of the system.

REQUIREMENT ANALYSIS



The Solution & Scope already explained prior to the analysis points to the aspects elaborated in this analysis where in the cycle business requirements, stakeholder requirements and solution requirements tend the design and functional side of the overall requirement aspect. Once the design and functionality are met then the transition takes place where the outcome is accessed and if the desired outcome/business requirements is not met the cycle continues.

Pertaining to this particular scenario the focus and requirement classes swings more to the solution side or the Functionality, since the efficiency and a necessary timely transition or change is the core of what the solution is supposed to deliver.

FINANCIAL ASPECTS (Hypothetical) OF SOLUTION – [ROI]

System Expense (1st Year)

3rd party software –	**$ 2,50,000**
Customization charges –	**$ 50,000**
Yearly maintenance (After 3 years) –	**$ 3,000**
Server charges (Yearly) –	**15,000**
Tablets (No: 3) –	**Free**
Total (1 year) –	**$ 3,15,000**

Current VS Expected Change

Process speed (Waiter efficiency) –	**X**
Expected change –	**2% - ~4%**
Inventory expense (Monthly) –	**Y**
Expected Change –	**8% - 15%**
No; of takeaways | Efficiency –	**Z**
Expected change –	**3% - ~7%**

* The changes percentages and values are hypothetical

Other Expenses – Aiding Change

- Training
- Cost of digitalizing (**Devices if necessary**)
- Initial lag costing time(**Time necessary to adjust**)

Leads to profit after transition period

Daily Profit

Seating Capacity –	**30 p**
2 person Average –	**$ 350**
Times capacity is met per day –	**15 times**
Expense –	**$ 72,000**
Profit –	**$ 85,500**

* Hypothetical

PAYBACK PERIOD (**hypothetical**)

~ 4 Days

This here shows the hypothetical situation or the expected change and cost of the transition/change that one restaurant from the chain is going to have to endure. In an ideal situation while going with the chosen solution this aspect seems to the easiest and straight way to approach the change in the most lucrative and beneficial way.

And as it is shown there are certain intangible but measurable indicators like *How the **efficiency in the order taking** and **traceability** improves the customer services* which in turn drive the financial aspect to a certain extend. It also seems to be the case with **efficient report generation** which helps in **strategizing**, **inventory reorder** and thus aid to **less wastage**.

SALES DATA ANALYSIS - REPORTS GENERATED

The data was obtained from the previous years for 6 months from **January** – **June** where the sales of 12 restaurants in the different cities are Analysed by categorizing them into **4 Zones.**

ZONE – 1	ZONE – 2	ZONE – 3	ZONE – 1
• Illinois • Dallas • Jersey City	• Kansas City • Madison • Miami	• New Orleans • New York • Phoenix	• San Jose • Seattle • Washington
TOTAL SALES = **$ 627, 478**	TOTAL SALES = **$ 469,028**	TOTAL SALES = **$ 474,358**	TOTAL SALES = **$ 343,415**

Restaurant ID	City	Jan	Feb	Mar	Apr	May	June	TOTAL	
1200333	Chicago	18,225	15,184	98,984	1,500	71,111	7,889	$ 2,12,893	
1200358	Dallas	78,888	48,211	15,454	15,845	48,211	15,000	$ 2,21,609	
1200432	Jersey City	12,121	14,414	56,451	89,894	11,112	8,985	$ 1,92,977	
1200989	Kansas City	15,455	15,454	11,112	11,112	20,000	10,000	$ 83,133	
1200789	**Madison**	56,451	78,451	15,487	87,844	15,845	5,655	$ 2,59,733	Highest in **6** month's
1200289	Miami	48,211	16,595	18,498	11,112	16,595	15,151	$ 1,26,162	
1200739	**New Orleans**	16,595	15,487	48,211	78,787	45,484	44,544	$ 2,49,108	
1200352	New York	15,184	15,845	41,545	1,622	15,151	15,184	$ 1,04,531	
1200498	Phoenix	15,487	56,451	16,595	15,487	15,184	1,515	$ 1,20,719	
1200444	San Jose	15,454	18,498	15,455	15,184	18,498	20,000	$ 1,03,089	
1200669	Seattle	15,845	11,112	15,184	15,184	78,787	15,845	$ 1,51,957	
1200888	Washington	11,112	15,455	15,845	15,845	10,000	11,112	$ 79,369	Lowest in **6** month's

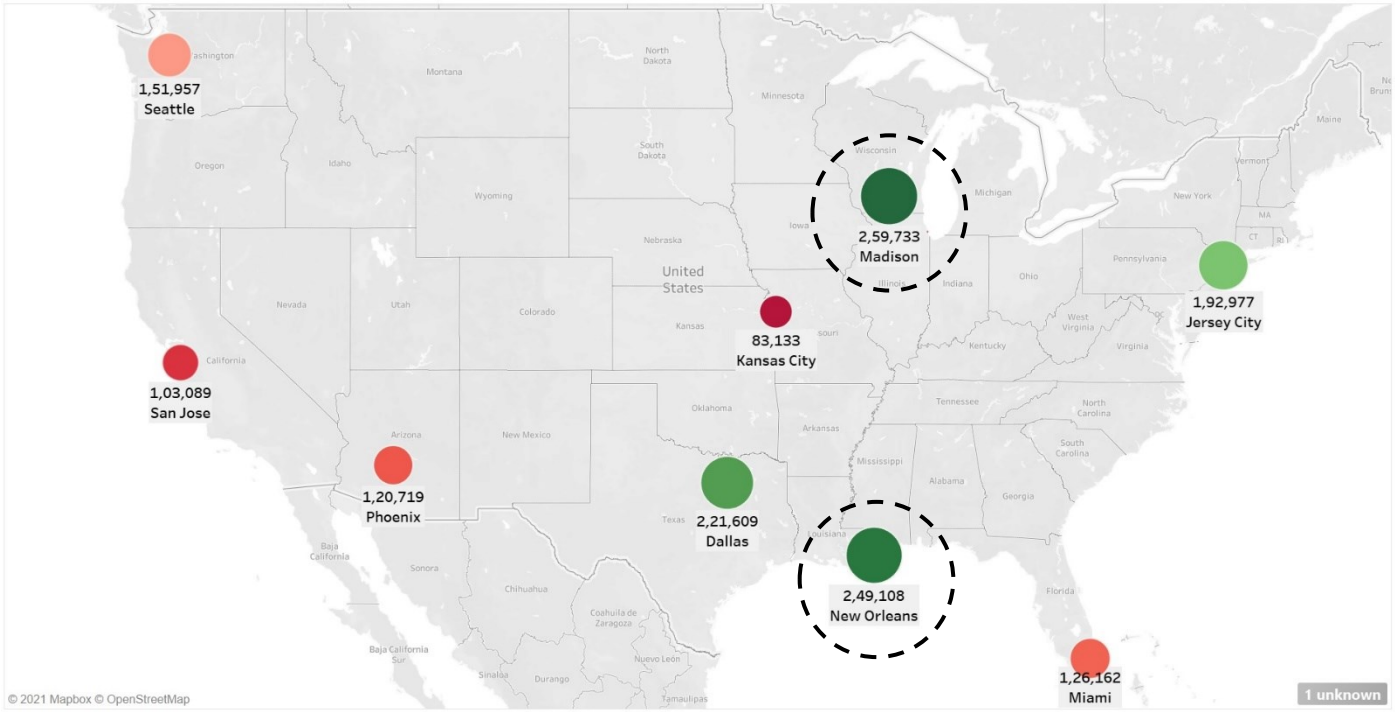
Madison & **New Orleans** have the highest sales in the 1st 6 six months

Washington have registered the lowest sales

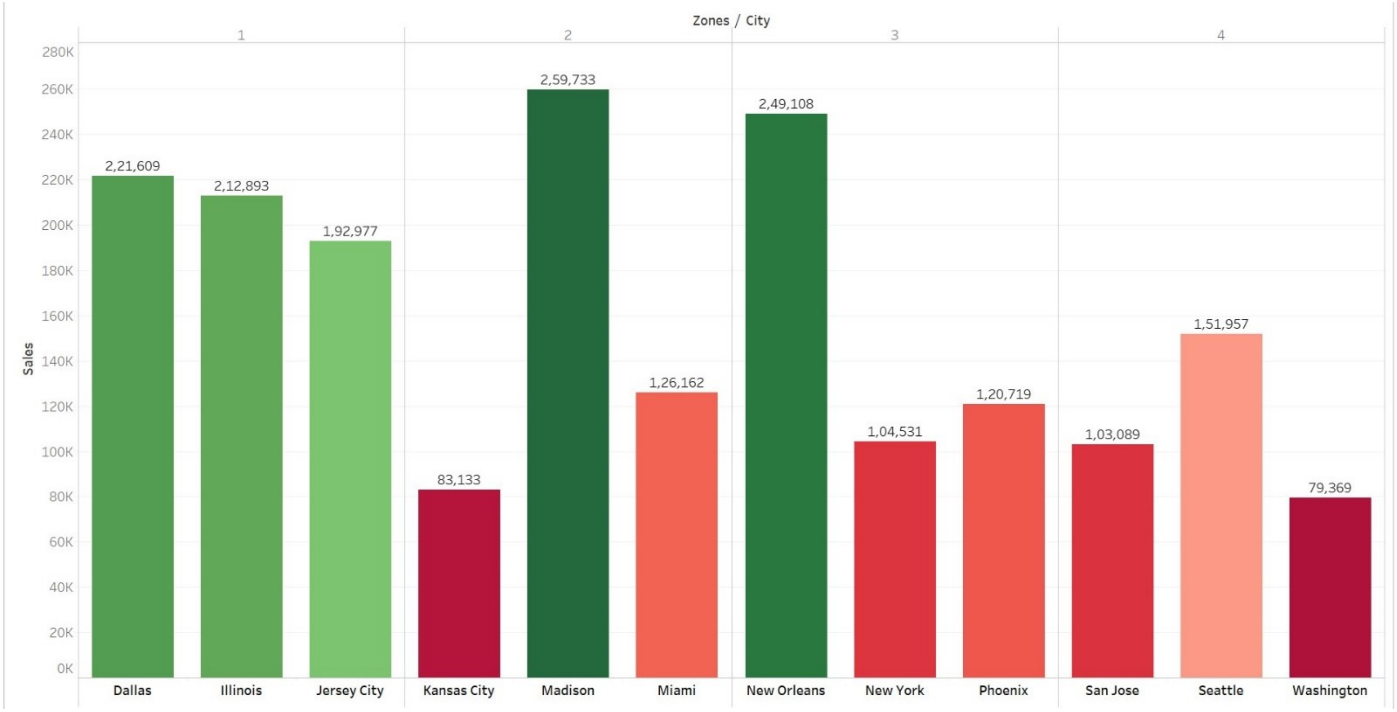
This data when viewed in the light of the assumption or ideal situation of **ROI** which was previously calculated to be **~4 days** will vary in accordance with the variance of profit-making ability of each restaurant in each state. In this particular situation we assume that the ideal situation applies to the restaurant in Madison which is 4 days where they have registered a sales profit of **USD ~260,000** and restaurant in Washington doing comparatively poor **USD ~ 80,000.** It can be inferred that

Washington will take approximately **~8 days** or more to get to break even and which sets the over all ROI to be somewhere between 3-5 days (Assuming the ideal situation and considering the non-tangible factors).

Sales Map – Regional View

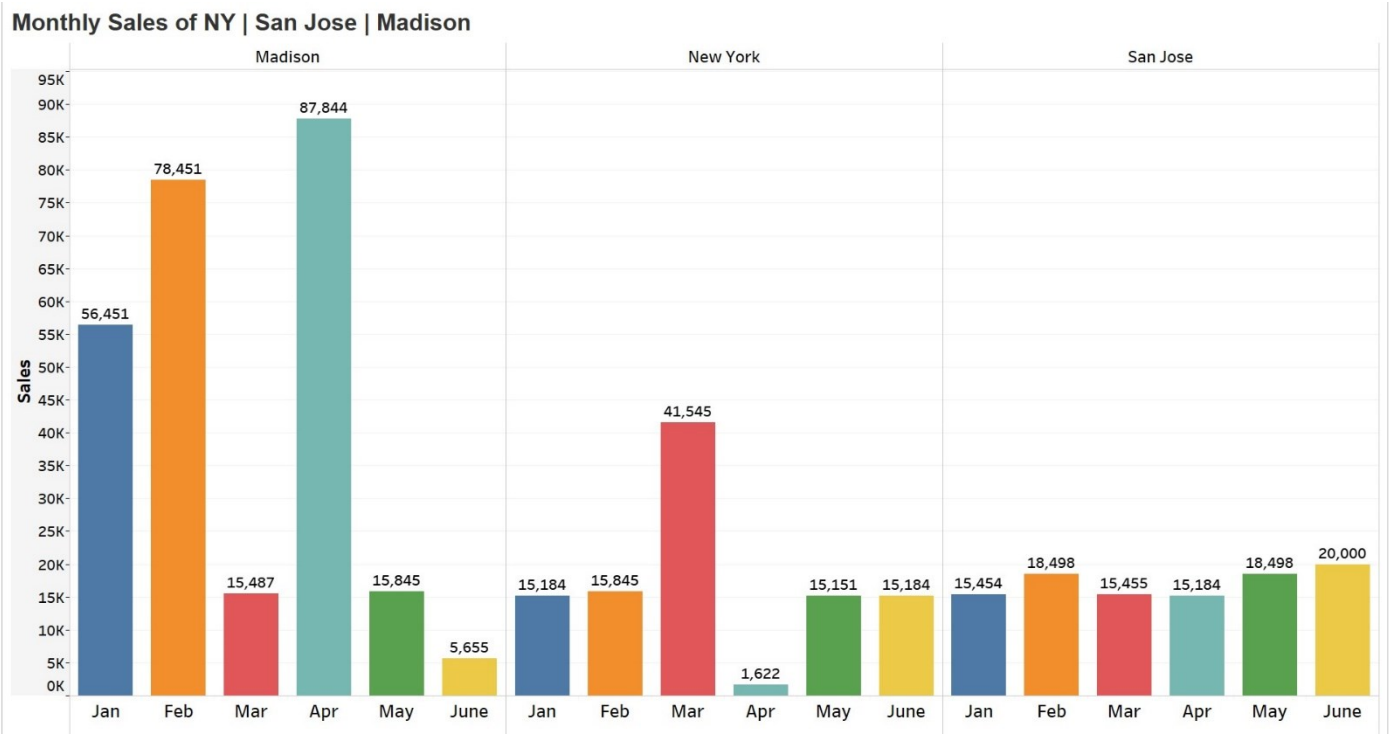


Sales Map – Zonal View (4 Zones)



In the zonal view its clear that the **3rd** and the **4th** zone is doing worse compared to the formers, though restaurant in madison (**Zone 2**) is one of the highest profits making Kansas City in the same zone is the worst performing. And the Zone 1 is vividly doing better in all 3 restaurants.

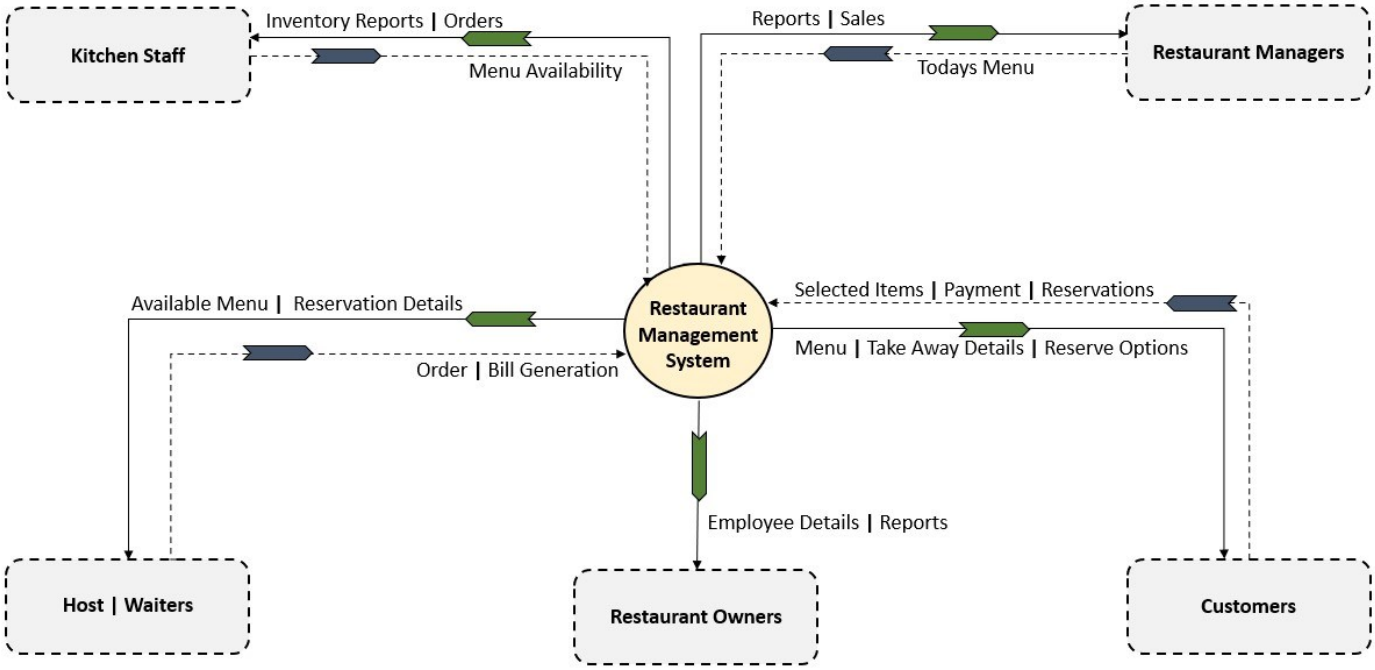
Monthly Sales NY | San Jose | Madison



The unpredictable trend in Madison and New York during March and April points to a lot of opportunity to clear the strategical errors to bring in a stable environment or at least calls for a new through report and insight generation.

EXPECTED CHANGES – WHILE SYSTEM TRANSFORMATION

CONTEXT DIAGRAM

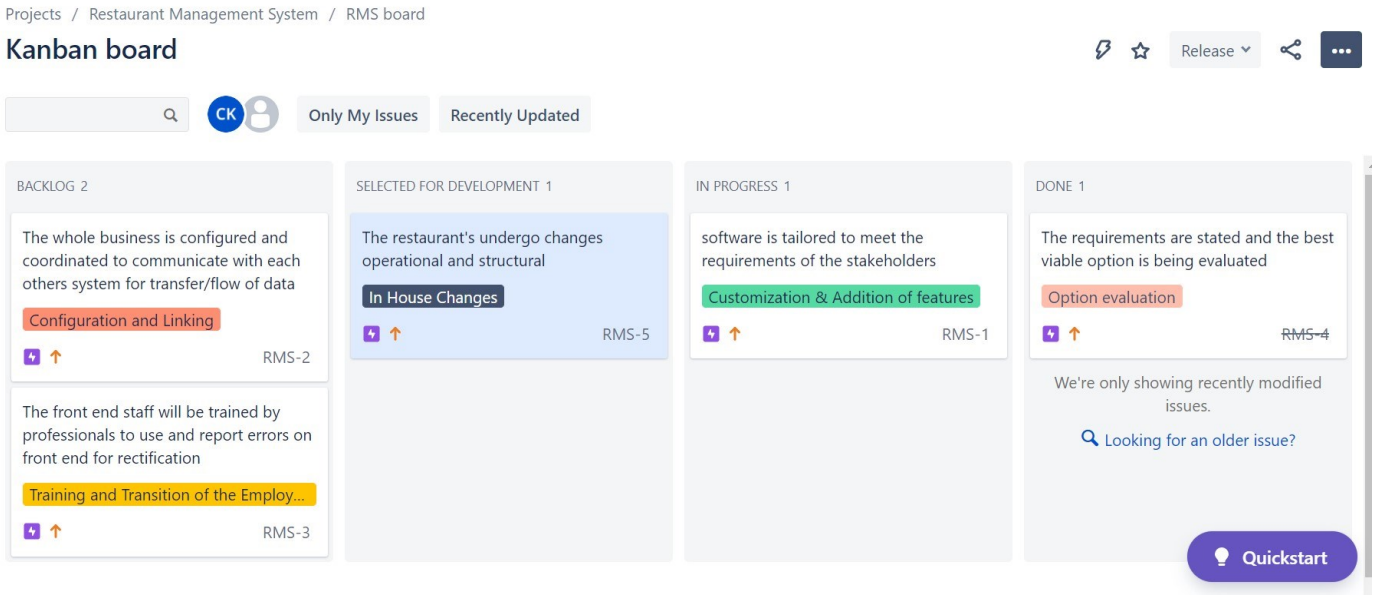


Context diagram depicts the flow of the information and data from both ends that is from the entities to the System, where and how the access to the flow and flexibility to input again depends on the hierarchy the system is configured to. This is rough simulation of the functions.

HOW THE PROCESSES IS CARRIED OUT - TIMELY DELIVERY

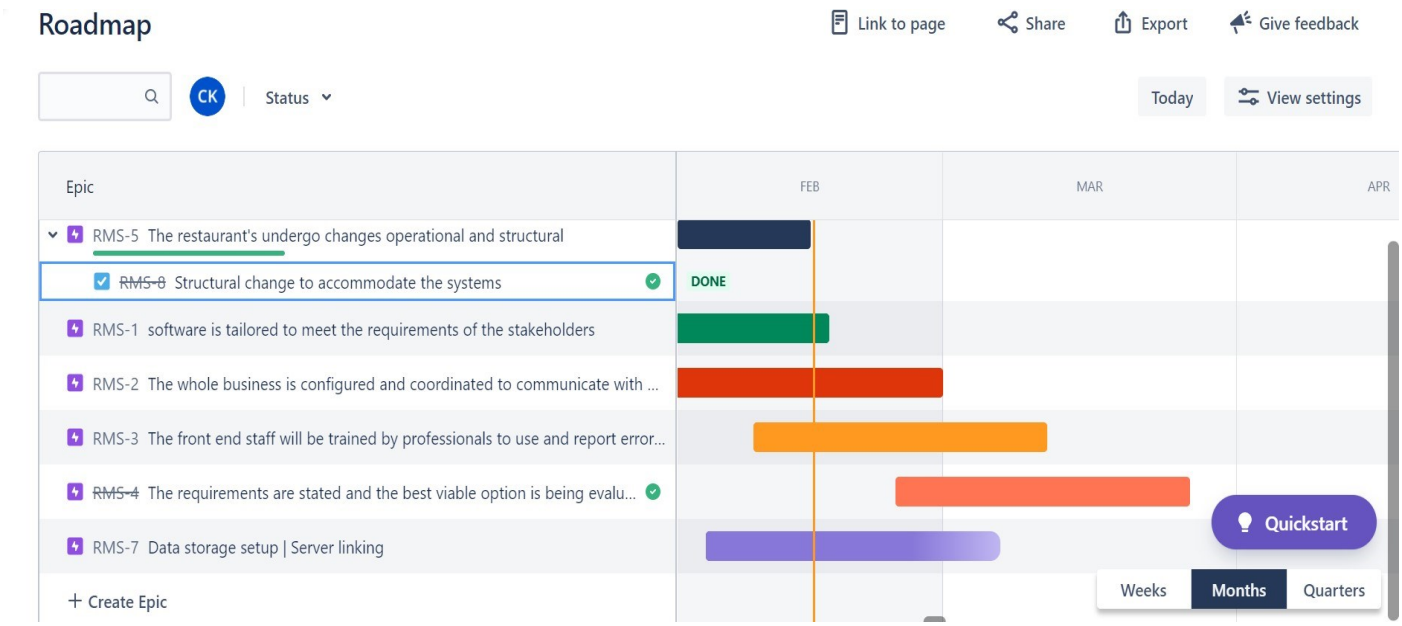
KANBAN BOARD

Here the flow and the expected timeline of the whole process from the start to end is simulated using JIRA, this gives clarity while in each part of the process and while tracking the backlogs and the improvements. Projects when split to tasks and stories can be delegated and monitored and with the time line it gives a sense/ need for prioritization and reduces wastage of resources.

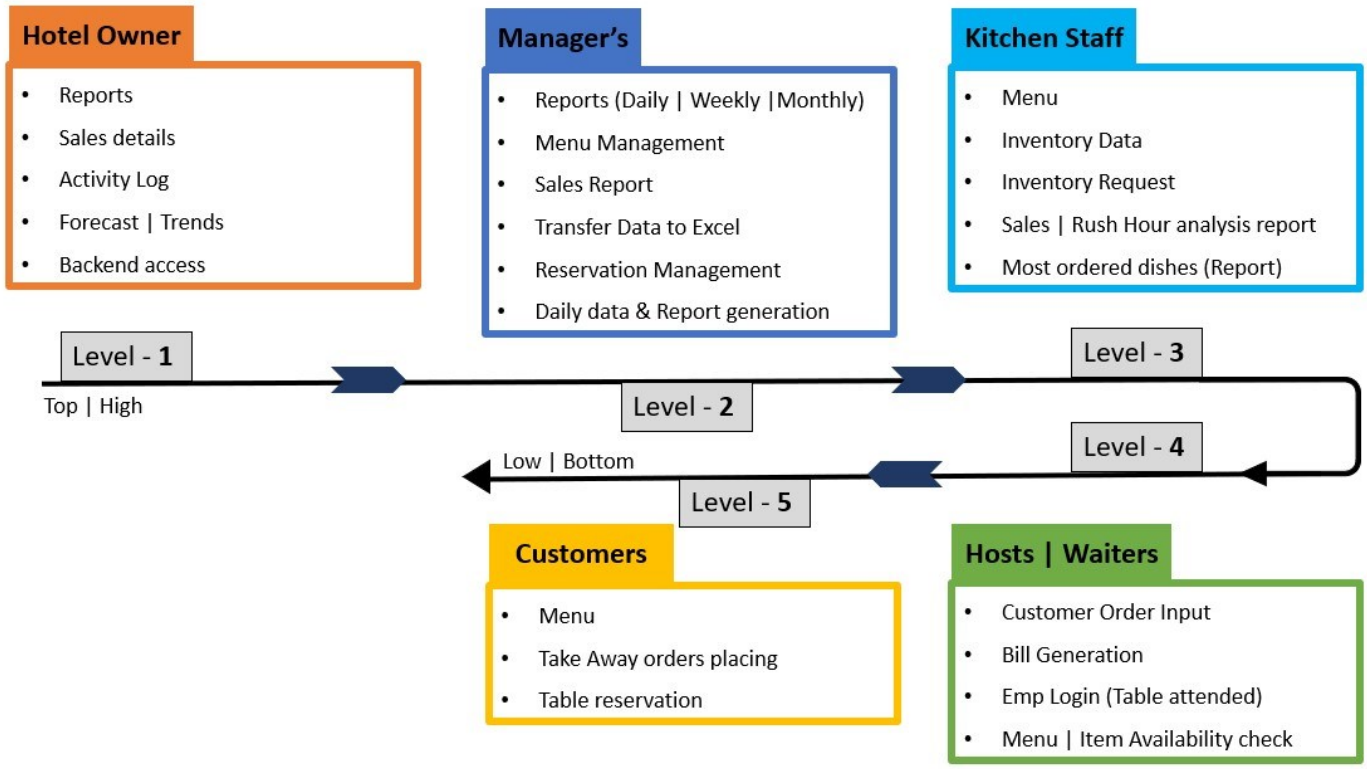


ROAD MAP –

This shows the duration and the current situation/progress of the epics and tasks that is part of the project. A formal tracking or monitoring on the progress and planning is already in action as you can view in the road map, that the **task 1** restaurant has already undergone structural changes to accommodate the systems. The task **2** is almost to the end that all the requirements and changes are close to finalization regarding the system.

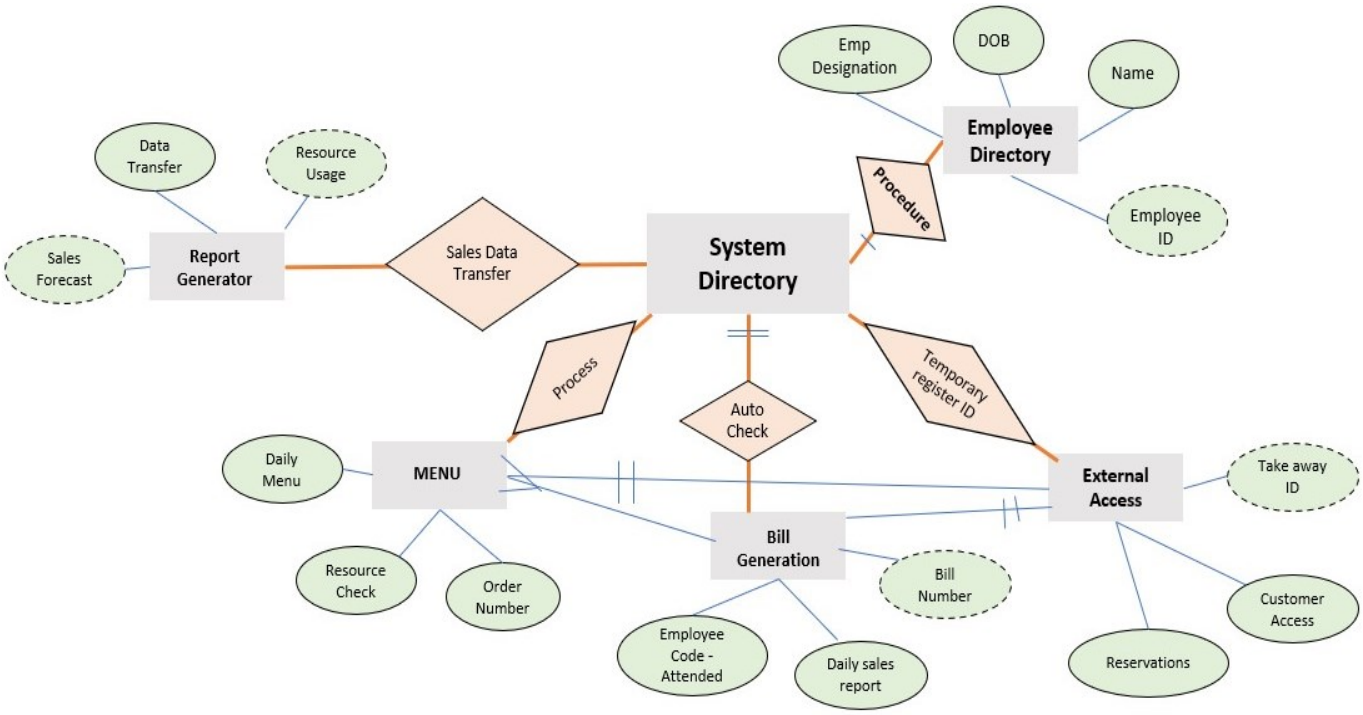


HEIRARCHY LEVELS & ACCESS CLASSES [Internal Stakeholder's]

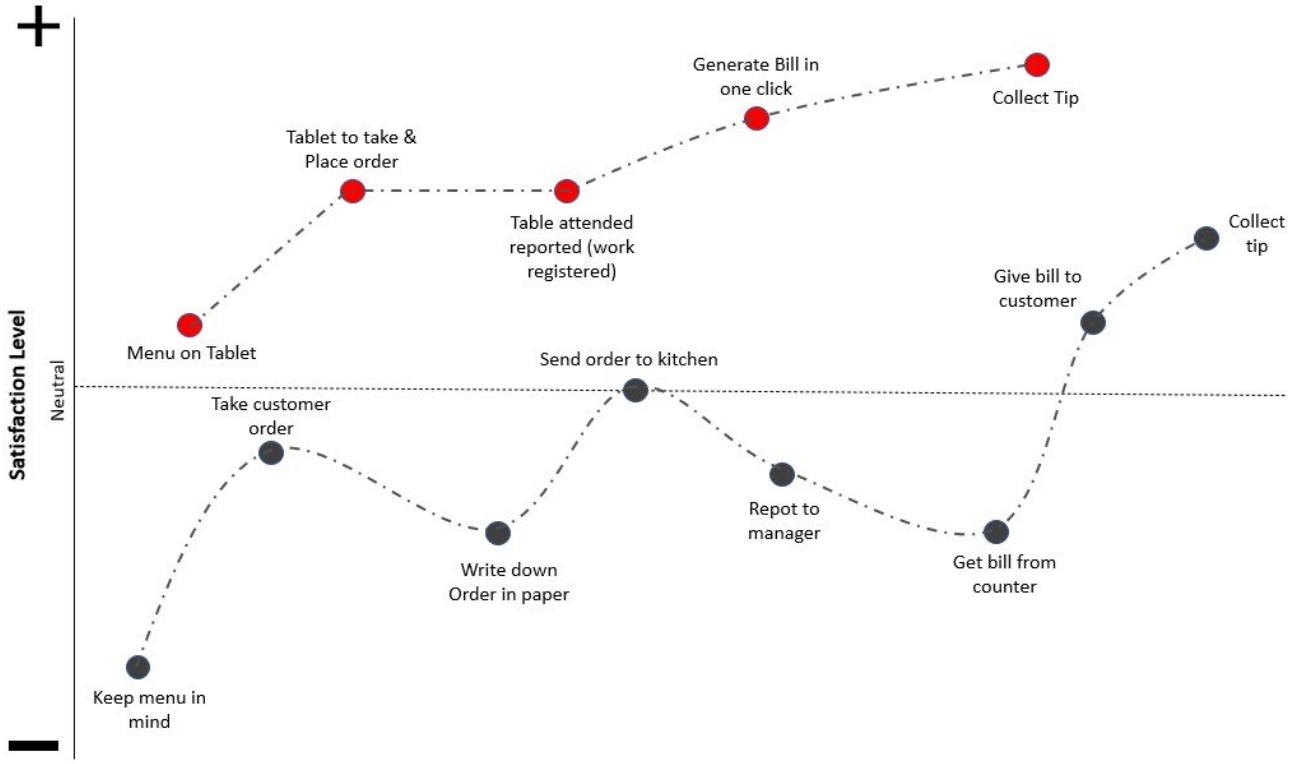


Here it is vivid how the hierarchies in the system works and the kind of changes and improvements the transition is going to bring in convenience and efficiency for each of the stakeholders. Even though customer doesn't enjoy the benefits directly they are an integral part of the functioning of system.

ER Diagram

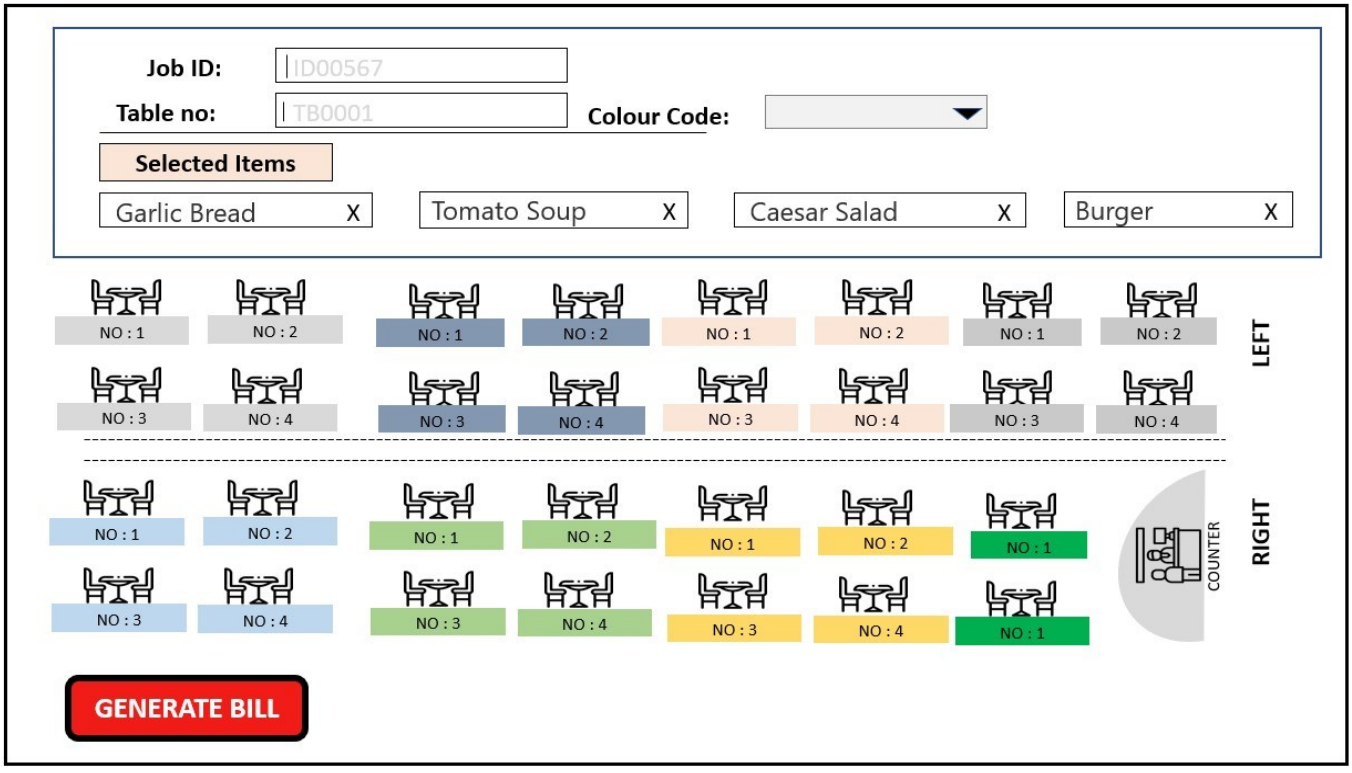


Change in Convenience – Waiter Perspective



The actual change and reason for planning for such a change was because of the primary reason that the waiters were using paper to take down orders and to point out the tables attended which had been creating discrepancies in tracking the hours worked and efficiency and bill generation a tedious work. So, at in this figure the system is expected not only to decrease the intermediate unnecessary time wastage.

DEMO SCREEN – Waiters| Host Order/Bill Generation Tab



DEMO SCREEN – Manager's Tab