

Technical Requirements Document for Sally Backend

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Revision History:

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0.1	Ajai, Shanmukh	12-Dec-16	Initial Draft
0.1.1	Ajai, Shanmukh	21-Dec-16	Handling anonymous users

Executive Summary

This is the technical requirements document for the corresponding product requirements document for sally backend. The objective of the document is to capture all the details required for developing the backend system and to verify the functional requirements are correctly understood by the developers and all aspects of functional requirements are factored into the system design. Further this will also act as the reference for definition of terms and functional work flows.

Note that this document is currently a work in progress.

1. User Registration and Login

There are three different types of users in the system:

1. Sally machines. Each machine will have a built-in unique code to identify it.
2. Sally machine Owners.
3. End users who consume the salad.

End User Login

End users can login using Google/Facebook account or register. Fields captured in registration form are:

- First Name (required)
- Last Name (optional)
- Gender (required)
- DOB (required)
- Location (required)

Privacy policy will be added

User can send his complaints to a support email address (TBD)

Users can delete their account

Identity used by the user at the time of login is used in the application

Sally Owner Login

A Sally Machine Owner can login and update basic information. **What are the basic information** owner can update. Any one can register as a Sally owner. Then they can register a Sally machine with some unique serial number. Owner should be able to change the name of a Sally machine. Owner should be able to change the location of a sally machine. Should be able to add/remove ingredients. Should be able to add/remove salad recipes.

If the Sally machine is used in a dine-in restaurant, waiters should have no higher priority assigned to serve the customers.

Usecases for Sally Owner

1. Buying a new Sally machine. User buys a new machine and registers the machine. Updates the location of the machine installation. Adds the ingredients available in the machine.
2. Move a Sally machine from one location to another restaurant. Owner updates the location information.
3. Sell a Sally machine. Owner unregisters the Sally machine. **How the reassignint to new owner works?**
4. Owner returns the sally machine. Administrator unregisters the owner associated with the sally machine.
5. Sally machine is damaged by fire/accident.
6. Sally machine is stolen.

2. Sally machine Status Monitoring

Sally machine periodically pings the central back end server and updates the salads it dispensed, inventory of ingredients etc. If the Sally machine doesn't ping the central backend after a specific period of time, it may be assumed something is wrong with the machine. This is a configuration specific to a machine/ Sally owner/ Set of machines?

Usecases for machine heartbeat

1. Sally machine is stocked at the start of day.
2. Sally machine runs out of a ingredient
3. Machine failure.
4. Communication failure / central server cannot be reached.

3. Reporting

Reports need to be generated from the data collected on various trends of the usage based on demographics. User personal data needs to be obfuscated in the trends. **TODO**

4. Ordering

When user is at a location, he is shown a list of Sally machines available at his location. This location can also be entered manually. He can select a Sally machine and see the available Salads and ingredients at that particular Sally machine.

He can search for a particular Salad and get a list of Sally devices which serve that particular Salad recipe. User should be able to find the nearest Sally machines which can service his choice, by distance or by walk time / drive time etc.

Salad names are shown in English and Spanish

The salads and ingredients are fixed for a Sally machine. This information will be provided by Casabots. Ingredients at each sally machine can be different but there should be a global list of all ingredients with images that Casabots provides.

Should recipe / ingredients have other qualifiers like light, heavy, healthy, good for hanover?

User can select a pre defined recipe like Ceasar or opt to create his own recipe. If he creates his own recipe, he can name it and save it to use it later. The available categories of ingredients and condiments and the process for making the salad are fixed for a recipe. User can create/update/delete any saved salad recipe.

Salad names should not be more than 32 characters long and any characters are accepted

Metric system is used in the backend

Portion sizes are fixed i.e. small, regular and large

A running total of calories for ingredients and the calories for each ingredient is shown when assembling a salad. User can browse the recipe of a predefined salad to see the same.

User can order only one salad at a time.

Order will be accepted for whatever ingredients user has selected

How are payments handled? Do we need to implement a payment gateway?

User will prepare salad remotely, then go up to the machine and go to a special screen that will show the QR code for a randomly generated identifier (say UUID). User will scan the QR code using his/her phone, and phone app will send a salad preparation request to the backend for the data that was read using QR code. Meanwhile the machine will check if there are any pending requests for its identifier, and if there are any, it will start working on the request. Pending requests will timeout after a certain time (say 1 minute).

Is there a confirmation like “Hi John” to confirm that Sally recognized the user and his order?

Each Sally has a hashtag?

User can cancel his order before asking Sally to prepare order. After Sally has started preparing his order, he can not cancel it.

User can rate a salad from 1 to 5. 1 being 'bad' and 5 being 'excellent'.

If the ingredient quantity is low or insufficient, it is declared as exhausted and can not be used.

Sally can not keep tab if it has done its work correctly. It can just count how many salads it dispensed from the day it was installed or whenever it's data is reset.

Sally can not keep track of the temperature and other measurements.

TODO

5. Anonymous Users

Anonymous users use Sally's console to get their salads prepared. As the user details are unknown in such case, the orders that were serviced offline are saved. If it is a predefined salad, Sally sends the name of the dispensed salad to pantry. If it is customized salad, Sally sends the ingredients along with their quantities.

6. Error Handling

Machine break down

Machine break down in multi machine instalment and rerouting orders

Communication breakdown long term / short duration

Unstable communication network

Machine installed in mobile food truck

Security vulnerabilities. Hack and over stress the device to explode. Protocols to check valid inputs.

TODO

7. Future Scope

Email address verification for end user

Referral programs for end user

User invitations and rewards

If the Sally machines are used in a restaurant chain, need tiered logins for the management of the chain and franchisees

Sell a Sally machine. Owner unregisters the Sally machine. Implementation of reassignment to a new owner

'Save as' button while saving a salad recipe. User can mark a predefined recipe as a favourite or give a name to it. He can also customize a pre defined recipe.

New portion sizes for salads and ingredients

Recipe / ingredients should have other qualifiers like light, heavy, healthy, good for hanover

8. No Scope

Anonymous users are allowed to order (without registration)

Phone number for user for creating an account or for registering

We need to show the sub totals of calories contributed by the category

User can rate a Sally or Sally chain

Sally owner has provision to add new salads or ingredients

Show waiting time of a queue at a Sally machine

Users can refer their salad recipes to their friends. By push notification., email, SMS, barcode

9. Glossary

Ingredient – A consumable substance that is used in making a salad and belongs to any of these categories i.e. greens, meat, vegetables, dressings and toppings

End user (usually referred as 'user') - A customer who has an account in the application and orders salads and consumes them

Order – A predefined salad or a mixture of ingredients along with their quantities

Salad – It is a mixture containing a specified ingredient served with a dressing

Sally – A Salad making robot, which accepts orders from backend and dispenses them

Sally Owner – The person who owns one or more Sally machines

Anonymous users - a user who is present at Sally's location and uses Sally's console to prepare his salad without using 'pantry' application