**Scheduling algorithm**

The scheduling algorithm will be used to set the scheduling of the first service and weekly schedule as shown in the mockup design.



**1. Admin panel**

* We will develop an admin panel that will allow admin to manage your services. Each service will have time duration – 30 minutes, 1 hour and so on.
* There will be a calendar within the admin panel.
* In the Calendar, you can setup your existing Schedule – Clients you are serving, services being offered, Date/Time of the week and Zipcode of the Client location
* Now you will have a complete insight on how your schedule is looking for the week.
* Through the admin panel you will be able to set up the daily limits. These limits will be set for the number of services you can offer in a day.

**2. First service scheduling algorithm**

* As you are looking to offer the first service at the earliest possible or within the week, we will be considering the following factors.

**A. The house number of the customer [Odd or even]**

* **Odd** house numbers must be visited on **Monday, Tuesday, or Thursday. Even** house numbers must be visited on **Monday, Wednesday, or Friday.**
* **Monday** is common for both odd and even.

**B. The current day of the week**

* After checking the odd or even number, we will check the current day of week
* **For example:** If the customer is visiting the site on Monday and have odd house number, then the first service can be scheduled for Tuesday or Thursday.

If the house number is even then the first service can be provided on Wednesday or Friday.

However if the customer visits on Thursday and their house number is even then the service can be scheduled on Friday as only one day of week is left.

Similarly if the customer visits the site on Friday then the first service can be scheduled on Monday according to the house number.

**C. Checking best optimal schedule**

* After short listing the days for the service, we will check the best optimal schedule for the customer.
* It will be checked by the algorithm by considering the address of the new customer and comparing it with the schedules of the customer with nearest house location.
* We will consider the location of the customer and its proximity with other houses in the same location.
* If the algorithm has found the optimal schedule for the customer on the specified days then the schedule will be shown to the customer.
* **For e.g. If the customer visits on Monday and based on their watering days the optimal schedule is on Friday then the schedule will be visible to the customer.**
* **However, if the customer visits on Thursday and they have already passed their optimal schedule then the algorithm will book the schedule for the next day Friday.**
* **So we will firstly be considering the optimal schedule for the new customer. If the customer has already passed their optimal schedule in the week then the service will be scheduled for next day.**
* **If the optimal scheduled day is not passed then the service will be scheduled on that day.**

Note-: We have updated the first service scheduling algorithm according to your requirements and comfortable in its implementation.

**3. Weekly service scheduling**

* After scheduling the first service, the algorithm will schedule the weekly service for the future weeks
* If the first service is optimal solution then the algorithm will suggest the same day and time for the customer. If not, then the algorithm will generate an optimal routine.
* The weekly service will depend on the following factors-:

A. Firstly the algorithm will check the house number of the customer.

* **Odd** house numbers must be visited on **Monday, Tuesday, or Thursday. Even**house numbers must be visited on **Monday, Wednesday, or Friday.**
* **Monday** is common for both odd and even.

B. After checking the house number the algorithm will match the “Customer entered zip code” with the “Existing zip codes entered in Admin calendar”

* Once the closest location is found, the algorithm will specify the same day for the scheduling as the closest house.

*Note-: We need to integrate the Google API to compare the distance between two zip code/locations.*

* To find the time of the service, the algorithm will check all the available slots for the day and assign the one that is closest to the time schedule of the nearest house location.

Note-: Your understanding of the weekly service scheduling is correct. I am filling the Open spots

**Multiple schedules -:**

The following will be our approach for creating a new schedule

* We will be consider one schedule as a default option.
* In the admin panel, you will have the option to define how many schedules you plan to offer. You can define the number and assign a color to each schedule.
* When the 1st schedule is completely filled, the 2nd schedule will be activated. Similarly when 2nd schedule is filled, only then 3rd gets activated
* The purpose of scheduling is when client has lot of work , so he will hire employees. Each employee will then have a schedule

Note-:

1. When a new Job is created, it will sync with the Calendar and the CRM. However going forward if you make any changes to CRM, they will not be reflected in the Calendar. They are not in sync . You need to manually update the calendar .

The email calendar invites will be sent through the CRM at your end

2. I am not including setting up a feature to calculate the Truck and the team members that will be on a truck. These features will be included in the future scope.