

UNIVERSITY OF SCIENCE
ITEC

Project Management

Proof of Concept – Group D



Bộ môn Công nghệ phần mềm
Khoa Công nghệ thông tin
Đại học Khoa học tự nhiên TP HCM

Table of content

A. Introduction	3
B. Source code for concept	3
C. Proof of concept	5

A. Introduction

Datetime booking requirement:

- Start time, end time match with each employee **(1)**
 - Monday - Tuesday: 10:00 - 19:00
 - Tuesday - Friday: 9:00 - 18:00
 - Saturday: 9:00 - 15:00
 - Sunday: 9:00 - 20:00
- Start time on current day should in the next 30-min of current time **(2)**
 - Current time is 10:20 => the earliest booking should be at 10:50
- Start time booking + Time of services should not later than End Time **(3)**
 - Booking at 15:00 with 2-hour services will not be available if the end time is 16:00
- **New booking will not intersect the other booking (the most important) (4)**
 - The ongoing booking at 14:00 with 2-hour services. Then the earliest available time should be from 16:00 to the end of time.

B. Source code for concept

Solve the (1) problem

```
4 function getTimeForDate($date, $sum_duration, $selected_employee, $isstartdate = false)
5 {
6     global $conn;
7     define("nexttimestep",30); //next time from now
8     define("timestep",15); //booking time
9     $appointment_date = date('Y-m-d', strtotime($date));
10    $day_id = date('N', strtotime($appointment_date));
11
12    $stmt = $conn->prepare("
13        Select from_hour,to_hour
14        from employees_schedule
15        where employee_id = ?
16        and day_id = ?
17    ");
18    $stmt->bind_param("ss", $selected_employee, $day_id);
19    $stmt->execute();
20    $res = $stmt->get_result();
21    $time = $res->fetch_all(MYSQLI_ASSOC);
22
23    $open_time = date("H:i", strtotime($time[0]["from_hour"])); //can change open time in here
24    $close_time = date("H:i", strtotime($time[0]["to_hour"]));
25 }
```

The (2) problem is solved with some basic formula

```

26     if ($isstartdate)
27         // $start = date("H:00"); //get time now by time zone
28         if (isset($_GET['admin'])){
29             $start = $open_time;
30         }else{
31             $step = date("i") + constant("nexttimestep") + (constant("nexttimestep") - (int)date("i")%constant("nexttimestep")); //
32             //next earliest time slot
33             $start = date("H:i", strtotime(date("H:i")) + $step*60);
34         }
35     else
36         $start = $open_time;

```

The (3) and (4) problems are solved by multiple queries to check the empty of the time slot, then add it to the array

```

while ($start < $close_time && $result <= $close_time)
{
    //Check If there are no intersecting appointments with the current one
    if ($start >= $open_time)
    {
        $stmt = $conn->prepare("
            Select * from appointments a
            where date(start_time) = ?
            and
            a.employee_id = ?
            and
            canceled = 0
            and
            (
                time(start_time) between ? and ?
                or
                time(end_time_expected) between ? and ?
            )
        ");

        $stmt->bind_param("sssss", $appointment_date, $selected_employee, $start, $result, $start, $result);
        $stmt->execute();

        $queryres = $stmt->get_result();

        if ($queryres->num_rows != 0)
        {
            //Show blank cell
        }
        else
        {
            array_push($timearr, date("H:i", strtotime($start)));
        }
    }
}

```

```

    $start = strtotime("+15 minutes", strtotime($start));
    $start = date('H:i', $start);

    $secs = strtotime($sum_duration) - strtotime("00:00:00");
    $result = date("H:i", strtotime($start) + $secs);

```

C. Proof of concept

We use Postman to test this function

There are time slots on a new day 24-06-2022 (current is 21-06-2022). All time slot is empty from open time to end time

The screenshot shows a Postman interface with a GET request to `http://localhost:8080/query.php?selected_services=[%224%22,%225%22,%226%22,%227%22]&selected_employee=4&selectedDate=24-06-2022`. The query parameters are listed in a table below.

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> selected_services	[%224%22,%225%22,%226%22,%227%22]	
<input checked="" type="checkbox"/> selected_employee	4	
<input checked="" type="checkbox"/> selectedDate	24-06-2022	

The response body is shown in JSON format:

```
1 {
2   "time": [
3     "09:30",
4     "09:45",
5     "10:00",
6     "10:15",
7     "10:30",
8     "10:45",
9     "11:00",
10    "11:15",
11    "11:30",
12    "11:45",
13    "12:00",
14    "12:15",
15    "12:30"
```

There are time slots on the current day (current is 21-06-2022 10:25). The earliest time slot will be 11:00, later than at least 30mins from now.

GET ▼ http://localhost:8080/Hairsalon/included/query.php?selected_services=[%224%22,%225%22,%226%22,%227%22]&selected_employee=4&selectec ...

Params ● Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

	KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/>	selected_services	[%224%22,%225%22,%226%22,%227%22]	
<input checked="" type="checkbox"/>	selected_employee	4	
<input checked="" type="checkbox"/>	selectedDate	21-06-2022	

Body Cookies Headers (7) Test Results 🌐 Status: 200 OK Time: 445 ms Size: 456 B S

Pretty Raw Preview Visualize JSON ▼ ≡

```

1  {
2    "time": [
3      "11:00",
4      "11:15",
5      "11:30",
6      "11:45",
7      "12:00",
8      "12:15",
9      "12:30",
10     "12:45",
11     "13:00",
12     "13:15",
13     "13:30",
14     "13:45",
15     "14:00",

```

After the customer books a 1-hour service from 12:00, the time slot from 12:00 to 13:00 will disappear, avoid intersecting appointment

GET ▼ http://localhost:8080/hairsalon/included/query.php?selected_services=[%223%22]&selected_employee=4&selectedDate=21-06-2022 Send

Params ● Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
<input checked="" type="checkbox"/>	selected_services	[%223%22]			
<input checked="" type="checkbox"/>	selected_employee	4			
<input checked="" type="checkbox"/>	selectedDate	21-06-2022			

Body Cookies Headers (7) Test Results 🌐 Status: 200 OK Time: 455 ms Size: 457 B Save Response ▼

Pretty Raw Preview Visualize JSON ▼ ≡ 🔍

```

1  {
2    "time": [
3      "11:00",
4      "11:15",
5      "11:30",
6      "11:45",
7      "13:00",
8      "13:15",
9      "13:30",
10     "13:45",
11     "14:00",
12     "14:15",
13     "14:30",
14     "14:45",
15     "15:00",

```

Runner Trash