**System Request**

**Project Name:** Booking Management System for Rock Climbing Courts

**Business Need:**

1) Need for an online booking system for customer’s convenience.

2) Utilize internet technology to attract more customers.

3) Utilize a simple deep learning model for rough predictions to make better arrangements and recommendations.

**Functionality:**

1) Customers will be able to register as a new user or login if they have already registered (authentication).

2) Customers will be able to make online payments to buy tickets or join as a membership.

3) Customers will be able to book a one hour/ two hour slot on any particular day and if the slot is full, they are asked to choose a new slot while also being added to a wait list.

4) Notifications will be sent for successful bookings, emergence of spots (if the customer is in waitlist) and warnings.

5) There will be tutorials uploaded for beginners.

6) Customers will be able to get information about coaches, equipment and water.

7) Climbers will be able to check the conquered routes via nfc devices.

**Expected Value:**

Tangible:

1) Increase in the number of customers by 20% in the first year which is approximately 100

customers, that means a profit of approximately 300,000 DHs.

2) Decrease the number of employees (as previously booking system was made by phone) due to higher efficiency by 10% which is approximately 5 employees, that means cutting monthly costs by 5\*6000=30000 DHs.

3) Increase the attendance rate by 20%.

Intangible:

1) Increase customer satisfaction by saving their money and time for booking.

2) Customers will be able to make bookings at any time a day wherever they are without any cost (previously - call costs).

3) Customers will be less likely to not show up without cancelling and more likely to book a spot.

4) Deep learning system will send notifications to remind customers to make a booking, in case they forget to provide customer convenience.

**Special Issues or Constraints:**

Time constraints:

System should be installed and running within the next 3 months.

**Technical constraints:**

1. System should be available 24 hours from Monday to Saturday. Any maintenance/ feature update work must be done on Sunday.

2. Customers must buy a ticket or join as a membership before making bookings.

3. At most three different bookings are allowed at the same time and customers will get warnings if they don’t show up without cancelling the bookings.

4. Data confidentiality must be ensured by certain rules.

**Project members:**

* Dhurba Tripathi (dt2202)
* Yi Wang (yw4549)