horizontal line

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Turf Booking Management

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# OVERVIEW

* To develop and deploy a fully functional website to manage booking of Turf(s).
* User Documentation.
* Maintenance and Operations Documentation.

# GOALS

1. User : Should be able to make a Booking, Pay and View previous bookings.
2. Turf Manager : Should be able to manage bookings, check and modify availability.
3. Admin : Should be able to manage the Locations, Turf(s) and see Analytics.

# STORIES

### **Login / Register:**

* + Existing user(s) should be able to login with their credentials.
  + New user(s) should be able to register.
  + Existing user(s) should be able to change the password.

### User:

* + Should be able to select the location and turf.
  + Should be able to see the available slots and select the available one.
  + Should be able to confirm the booking after viewing the prices for the selected slot and continue to pay.
  + Should be able to view the previous bookings.
  + Should be able to retrigger the confirmation notification.
  + Should be able to update the profile.

### Turf Manager:

* + Should be able to modify the availability of the turf.
  + Should be able to view the turf calendar for booking and open slots.
  + Should be able to modify the pricing of the selected turf.
  + Should be able to modify the bookings.
  + Should be able to retrigger the confirmation notification.

### Admin:

* + Should be able to add new, modify role(s) and remove existing Admin(s) / Turf Manager(s) / User(s).
  + Should be able to add, remove and disable locations.
  + Should be able to add, remove and disable turf.
  + Should be able to modify the pricing of the selected turf.
  + Should be able to see the bookings and availability for selected turf.
  + Should be able to see booking analytics.

### Payment:

* + Should be able to pay for the selected slot according to pricing.

### Notifications:

* + Should be able to send automatic confirmation (sms/whatsapp) with the slot details once the payment is successful.
  + Should provide an option to send notification to registered mail.
  + Should be able to send slot details when user/admin retriggers.

### Forget Password:

* + User(s) / Turf Manager(s) should be able to reset their password.

# TECH STACK

## Frontend

* HTML
* CSS
* JS / TS
* Bootstrap
* Angular

## Backend

* Java
* SpringBoot
* JUnit
* JavaDoc
* JWT
* Microservice architecture

## Database

* Oracle DB / MySQL DB
* PL SQL

## CI/CD

* GitHub
* Jenkins
* Docker
* Kubernetes
* AWS

## Tools

* VS code / STS
* Git
* Jira
* Postman
* Confluence / Google Docs

# ASSUMPTIONS

### Testing:

* + Implement comprehensive testing strategies, including unit tests, integration tests, and end-to-end tests.
  + Use JUnit for backend tests and a testing framework like Jasmine/Karma for Angular.
  + Perform functional testing.

### Security:

* + Ensure all aspects of security are covered, including data encryption, secure password storage (e.g., bcrypt), and protection against common vulnerabilities (e.g., SQL injection, XSS).

### Scalability:

* + Plan for scalability in both the application and database design. Consider using AWS services like RDS for managed databases and Elastic Beanstalk for scalable application deployment in future.

### User Experience (UX):

* + Focus on creating an intuitive and user-friendly interface.
  + Perform usability testing to gather feedback and make improvements.

### Documentation:

* + Provide comprehensive user and maintenance documentation. Include setup instructions, API documentation (using tools like Swagger), and troubleshooting guides.
  + Update the requirement document as any new changes come in.

### Performance:

* + Monitor and optimize the performance of your application. Use tools like New Relic or AWS CloudWatch to track and analyze performance metrics.