# MPC 2.0 Slot System

Slot system is where users (students) can reserve a slot for a test and take the test on a specified time. This system has two sides – one is user-side and other is admin-side. This document outlines the architecture, flow definition and implementation of slot system and its sub systems.

The following are the subsystems of the slot system in MPC2.0

1. Slot Management
2. Credit Management
3. Payment Gateway
4. Alert System
5. Reports and Sharing
6. Mal-practise Detection & Prevention
7. Ranking

## Flow

|  |  |  |
| --- | --- | --- |
| Event | Admin | User |
| Slot Creation | Slot Management >  Slot Quota Management >  Server Load Estimation | Slot Reservation >  Payment Gateway |
| Slot Consumption | Alerts >  Mail & SMS Remainders | Attend Slot >  User validation(Aadhaar & OTP) |
| Test Conduction >  Test-Slot Update >  User-Slot Update | Mal-Practise Detection & Prevention >  Slot Time Tracking |
| Late Comers Management >  Credit Management | Late Comer Options >  Credit System |
| Slot Complete | Slot Closing >  Report Generation | Report Mailing & Sharing |
| Rank Generation | Rank Publishing >  Recommendation & Summary |
|  | Test Review Solutions Management |  |

## Process:

1. **Admin** should define each cycle, associated mock tests, number of slots and time period of each slot
2. The created cycle is **published** in home page/ dashboard, and mailed to relevant users.
3. **User** can **reserve** a slot of their choice, to reserve a slot they have to buy it specified amount or credits. (credits can be brought via payment gateway)
4. **Admin** will **monitor** the slots, if all slots are filled, he can either **close** the slot or **increase** the slot size.
5. Once the announced slot date time arrives, the slot will be closed and the slot will enter **Consumption** mode, in which a timer will run at server side until the slot duration is over.
6. During the slot consumption, users will join the test. During test mal-practise detection and prevention is taken care by client side script.
7. System should monitor the users taking the test, and their arrival time. If a user comes late ( after 2/3rd time passed ) the system will present a choice to user – either take test with ‘what little duration left’ or deposit credits in user account so he can take the similar test in the future.
8. If user chooses to deposit credits for later use and not to take test the his slot is deemed closed and updated in global slot quota\* (i.e.: The global count will not increase, this is to avoid complications in slot quota system)
9. Once slot date time + duration is over, slot will be deemed **Slot Complete**. In this phase all logs will be saved for admin.
10. After the test is finished, user will be presented with results and option to review. User can share his score with various social networking sites like Facebook, WhatsApp…etc.
11. A report will be generated with score, time, other statistics along with summary and recommendations (in pdf format). This report will be sent to user mail.

## Subsystems

The subsystems of MPC2.0 Slot System are explained in detail below:

### Slot Management

Each **Cycle** contains N **Mock** **Tests** and each Test contains M **Slots.**

**1 Cycle = N Mock Tests**

**1 Mock Test = M Slots**

**1 Cycle = N \* M Slots**

For e.g.: 1 JEE Cycle contains 4 Mock Tests with 3 Slots for each Test.

**User Restrictions**: 1 slot per 1 user per 1 week \*

\*subjected to change in future.

### Credit Management

Each user account is associated with credit, he can buy credit via payment system. User can consume credit by buying slots for mock test. In case of late arrival / missing a slot\* the credit will be deposited for later use. (\*need to discuss). The payment is Non-Refundable but can be converted to credits in-case of late arrival / missing slot. The credits are Non-Transferable, Non-Refundable and mpc is not liable for misuse ☺

### Payment Gateway

In MPC 2.0 payment gateways are used to allow the users to buy slots for mock test. There are various gateway systems available like Paypal, CCAvenue, EBS, Paytm…etc. Paytm is one of the safest and secured payment gateways in India for online transaction.

### Alert System

The alert system will be implemented globally for all MPC2.0 Services. This system is responsible for send SMS alerts, Mail alerts, Remainders during various events like slot announcement, slot reservation, slot starting, slot closing…etc.

### Reports & Sharing

Reports are generated after test is finished with details like score, time taken, subject-score distribution, subject-time duration, trends, strengths, weakness, recommendations and analysis…etc. This report will be sent to user mail, and can be shared in social networking sites.

### Mal-practise Detection & Prevention

This system is responsible for detection and prevention of user mal-practise during test. The following are the some of the actions that can be considered as mal-practise.

1. Switching to other tabs (to search for answers)
2. Minimising browser window (to search for answers)
3. Using proxy-user to take test (i.e.: other person impersonating user)

Apart from above list there are other mal-practises, but we can handle only which can be possible to handle with in application’s reach.

### Ranking

After all tests in a slot are completed, the user scores are normalized and Rank is calculated. The algorithm is already defined, but need to review & finalize before implementation. The Rank indicates where the user stands globally irrespective of test paper difficulty.

# Tasks

Tasks will be listed in following format in other document (under preparation by dev team)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Module | Task | Remarks | ExpectedTime | AssignedTo | Status |
| 1. Slot Management |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Credit Management |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Payment Gateway |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Alert System |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Reports and Sharing |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Mal-practise Detection & Prevention |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |
| 1. Ranking |  |  |  |  |  |
| Admin |  |  |  |  |  |
| Client |  |  |  |  |  |