**Students**

1)List enrolled courses.

Use case: List enrolled courses.

Purpose: To get the list of the courses the student has enrolled on IITBombayX.

Actors: Student

Precondition: Student should be logged into the system. On his account.

Basic Flow:

1. Student accesses his dashboard, and clicks on the 'show enrolled courses' button.
2. The student is then taken to a page showing all the courses he has enrolled for, in a tabular form.

Exception Flow:

None.

Postcondition: The student is able to see all the courses he is enrolled for.

2)Accessing results and downloading:

Use-case:Accessing results and downloading

Purpose:Student can go through their progress and improve there skills if needed. It allows the students to keep records of their performance and accordingly tune up themselves to improve their grades in the course.

Actors:Student

Precondition:

1. The student must have an existing account on IITBombayX.
2. He must have access to the reports at the time of placing request – i.e., there are no ongoing quizzes or examinations during that period.

Basic Flow:

1. The student goes to the dashboard, and finds the tab/link indicating 'Result'.
2. He is then presented with the options for all the MOOCs he is currently taking, and must select one of them in order to determine which course results or performance he wants to see.
3. The student selects the course by clicking on the appropriate link, and is then presented with a page which gives his overall grade acquired so far in the course, along with links for the quizzes and graded/ungraded exercises he has completed. This can be downloaded as a pdf transcript, but only at the end of the course, when the coordinator issues it for the students.
4. If the student clicks on any of the quizzes that he has taken so far, and all of them are past the due date, then he can view the scores he had secured for that quiz. He may also review the quiz answers, provided the coordinator has granted access to it.

Exception Flow:

1. If the student is accessing the results at a time when quizzes are in progress, or the due date for the quizzes has not been reached, he will not be able to see his results, as the current scores of his tests will not be added to it.

Postcondition:

The student will be able to successfully see the results and if permitted by the coordinator and admin (as required), will be able to download a summary report of his performance (a transcript of sorts).

3)Appearing for Quiz:

Use-case:Appearing for Quiz

Purpose:To get the performance of the student about the course

Actors:Student, Course coordinator

Precondition:

1. The student must have an existing account in the system.
2. The student must be enrolled in the course in whose quiz he is trying to participate.
3. The quiz must be active at the time (within due date and after activation date).

Basic Flow:

1. The student goes to his dashboard, and selects the course.
2. He sees the quiz which is scheduled for the course, and clicks on the 'start quiz' link/button.
3. He is taken to a new page which tells him the rules and regulations for the quiz. He must click on the 'Take me to the quiz' button to start the quiz.
4. There will be questions of the formats such as MCQ, writing answer options, and single choice answers. For the first three types, if the 'Check' button is available, the answers will be evaluated immediately and the user will be shown the results of the answers, together with explanations, if the user clicks on the 'Show Explanations' button. Further submissions for the quizzes is not allowed, once the 'Check' button is clicked.
5. The 'Check' button will appear only if the quiz is a graded quiz and the current date is past the due date. Otherwise, the user can see the answers through the 'Check' button only for the exercises associated with the lessons at the time of practicing.

Exception Flow:

1. If the student tries to access the quiz before the start date and time of the quiz, then he will be shown a warning saying he cannot do so.
2. If a student tries to submit answers multiple times after the submission of answers to a quiz, he will see a warning message, preventing him from doing so.
3. Once a quiz is past the due date, the student cannot visit the quiz to change the answer. He can only see the answers and his results.

Postcondition:

The student successfully completes his quiz, and presents his answers for grading. If the answers are evaluated by the auto-grader, he can see the results of his answers immediately, and the scores will be added to his progress in his account. He can then view the results of the quiz and the change in his overall score from his own dashboard.

Use-case:Receiving course reminders

Purpose: The student receives various reminder and notifications regarding the courses he has enrolled for, including reminders for course enrollment, quiz dates, release of course materials and exercises.

Actors:Student

Precondition: The student must have a registered account in the IITBombayX MOOC platform, and in order to receive notifications regarding the courses, he must be enrolled in a particular course.

Basic Flow:

1. If the course coordinator wishes to include a student in his course, the student will receive an email in his inbox informing him to enroll in the course within a particular deadline. He will also receive similar notifications in his dashboard.
2. If new material has been released as part of the course, such as new exercises or new questions, the student will receive new notifications in his email regarding the same, and similar notifications in his dashboard.
3. The student will also receive notifications in his email and in his dashboard regarding the scheduling and deadlines of his quizzes.
4. The student simply needs to open his email inbox or his dashboard notifications tab in order to find the alerts of notifications for the same.
5. He then responds to these notifications accordingly.
6. In case the requests are responded to, he will not receive any more notifications regarding the same instance.

Exception Flow:

1. Due to the servers being clogged up at the time of sending out the notifications, the notifications may not be sent out immediately. In such a case, the notifications will be stored in a queue on the server and will be sent out at the earliest depending on the scheduling of the server processes.
2. The student may receive the notifications but not respond to them immediately. In such a case, he will repeatedly receive notifications from the system for the same (such as course enrollment, quiz alerts, etc.) until the deadlines are reached or they are responded to. After the deadlines are reached, he will stop receiving notifications for the same.

Postcondition: The student will receive the notifications for the appropriate reminder at the earliest, and responds to them.

**Assisstant Teacher**

1) Use-case:Issue Notices

Purpose:The assistant teacher will issue notices for the students about the enrollment reminders and quizzes of the course.

Actors: Assistant Teacher

Precondition: The assistant teacher should have logged in to the system. He should be aware of the courses alloted to him.

Basic Flow:

1. The coordinator need to login into the system,by clicking the “ Login button”.
2. He need to look for the different issues considering the enrollment reminders for the students.
3. This may include reminders for an upcoming quiz of the course he is coordinating, or reminders for enrolling in a course.
4. He will then select the 'send notification' link from his dashboard, and for a particular event, he will select the students he wants to send the notification to, and send it.
5. In case of sending course reminders to students who have not joined yet:
   1. The coordinator goes to his dashboard, and clicks on the subject course from among the list of courses he is coordinating.
   2. He sees the course details on his dashboard page, and finds the number of students and the details of students who have signed up for his course, and who have not.
   3. He then clicks on 'Send Enrollment Reminder' link, which sends a reminder to the students via mail and notification to enroll themselves into the course.

Exception Flow:

1. If the coordinator fails to send the enrollment reminders on time either to all the students or to few of them, the students will not be able to get their schedule.

Postcondition: The Coordinator has successfully issued the required notices to the students.

2) Use-case:Access to student reports

Purpose:To get the student details and the student performance reports.

Actors: associate teacher

Precondition:

1. The associate teacher has successfully logged into his account on IITBombayX.
2. The associate teacher has successfully issued the notices to all the students regarding different quizzes and the students have appeared for the quizzes held in the IITBombayX.

Basic Flow:

The associate teacher goes to his dashboard page, where he clicks on a tab button to go the page for studentwise reports. Here, he has links for downloading the details of performance in the following categories:

1. All students:
   1. The associate teacher can click on this tab/link to go to the page containing the links for all the students in all the courses enrolled under him, divided by courses, or grouped together.
   2. The page contains a tabular display containing the names of all the students, and a link to their course performances.
   3. There will be an option to download this information in pdf format, which can be used by the associate teacher.
   4. The associate teacher will also have the option to download all the student information in an unstructured format, which will include all the details of the course grades, and the quiz results of the students.
2. Course-wise and semester wise division of students:
   1. The students will be divided into the courses and the semesters they are in (chronologically), and links will be available for each one of them.
   2. On clicking the link, the associate teacher is taken to a page. The page contains a tabular display containing the details of all the students and the course they are enrolled in, together with the start and end date of the course, and the semester they are taking it in (in the case of the generic student, however, this will not be available).
   3. The columns will show the final grades of all the students in their respective courses.
   4. There will be an option to download this information in pdf format, which can be used by the associate teacher.
   5. The associate teacher will also have the option to download all the student information in an unstructured format, which will include all the details of the course grades, and the quiz results of the students.
3. Analytical results:
   1. This includes all the analytical information that is provided by the InSight module of the IITBombayX system, to the associate teacher at the supervisory level.
   2. This provides information such as course performance graphs (using average course grades as metric for all students or individual course grades for single students) over the weeks, quiz performances over the weeks for the students (same as before, using the quiz grade percentages as metric). These will be available as separate tabs in both views 1 and 2 above.
   3. These views and details can be viewed in the browser and dashboard, and downloaded in pdf format.

Exception Flow:

1. If the associate teacher requests for the reports at a time other than the scheduled time for the corresponding report (hourly, weekly, daily), then he will see a message telling him that the data is not up to date for the generation of reports.
2. The associate teacher cannot request for the reports in the middle of courses and quizzes. If he does, he will be met with warnings saying that he will not receive up to date information if he tries to do so.

Postcondition: The associate teacher had accessed the student report successfully, and downloaded them if required.

3) Use case: View all the students enrolled

Purpose: The associate teacher can view all the students enrolled for a particular course under him.

Precondition: The associate teacher must be logged into his account on IITBombayX.

Basic Flow:

1. The associate teacher goes to his dashboard and clicks on the 'view students tab'.
2. He is taken to a page which shows the links: 'All students', and all the courses he is currently overseeing.
   1. If he clicks on the 'All students' tab, he will see the list of all the students who are enrolled in the courses under him.
   2. If he clicks on any one of the courses links, he will see a list of all the students who are enrolled in that particular course.

Exception Flow:

1. If the course associate teacher does not have any courses allotted under him, his dashboard page for the same will be empty.

Postcondition: The associated teacher is able to view the list of students enrolled in the course.

**Course Coordinator**

1)Use Case: View the most and least viewed topics

Actors: Course Coordinator

Purpose:Course Coordinator can analyze the topics within a course depending on most viewed and least viewed topics.

Precondition: The associate teacher must be logged into his account on IITBombayX.

Basic Flow:

1. The course coordinator goes to his dashboard and clicks on the 'Course Analysis' tab under MIS Reports.
2. He is taken to a page which shows the following:
   1. Top 5 most popular topics within a course, and
   2. Top 5 least popular topics viewed within the course,

Determined by the number of users who visited videos on that topic.

Exception Flow:

1. In the beginning of participation of the institute, when there is not sufficient data to determine trends, the tables will not be displayed.

Postcondition: The course coordinator will get to see the tables.

2)Use Case: Issue Notices

Purpose:The Course Coordinator will issue notices for the students about the enrollment reminders and quizzes of the course.

Actors: Course Coordinator

Precondition: The Course Coordinator should have logged in to the system. He should be aware of the courses alloted to him.

Basic Flow:

1. The Course Coordinator need to login into the system,by clicking the “ Login button”.
2. He need to look for the different issues considering the enrollment reminders for the students.
3. This may include reminders for an upcoming quiz of the course he is coordinating, or reminders for enrolling in a course.
4. He will then select the 'send notification' link from his dashboard, and for a particular event, he will select the students he wants to send the notification to, and send it.
5. In case of sending course reminders to students who have not joined yet:
   1. The Course Coordinator goes to his dashboard, and clicks on the subject course from among the list of courses he is coordinating.
   2. He sees the course details on his dashboard page, and finds the number of students and the details of students who have signed up for his course, and who have not.
   3. He then clicks on 'Send Enrollment Reminder' link, which sends a reminder to the students via mail and notification to enroll themselves into the course.
6. Send Link for Registration to the students via a special notification to selected students.

Exception Flow:

1. If the Course Coordinator fails to send the enrollment reminders on time either to all the students or to few of them, the students will not be able to get their schedule.

Postcondition: The Course Coordinator has successfully issued the required notices to the students.

3) Use Case: View, Insert, Update and Delete accounts of the associate teachers

Purpose: The Course Coordinator can view, insert, update and delete the accounts of the teachers teaching his course.

Actors: Course Coordinator

Precondition: He has to be logged into his account, and must have a course allotted to him.

Basic Flow:

1. Course Coordinator goes to his dashboard, and clicks on the 'Authenticate Assistant Teacher' tab.
2. Options are available for the following operations:

* View the assistant teachers currently allotted under his course, through a table.
* Insert a new assistant teacher in the course by sending him an email containing a one-time activation link to create an account for the assistant teacher. This assigns him a username and password.
* Update is used to change the details of the assistant teacher in a particular course, such as changing his course allotted, and personal emotion.
* Delete an assistant teacher's details from the current list, which deletes his entire details as an assistant teacher.

Exception Flow:

1. During insertion of assistant teachers via email, the dashboard compares the email input with the existing list to see if the person already exists as an assistant teacher. If he does, then there will be a message showing the error, the operation will abort.

Postcondition: The course coordinator is able to view and manipulate the information about the assistant teachers.

4) Use Case: Access to student reports

Purpose:To get the student details and the student performance reports.

Actors: Course Coordinator

Precondition:

1. The Course Coordinator has successfully logged into his account on IITBombayX.
2. The Course Coordinator has successfully issued the notices to all the students regarding different quizzes and the students have appeared for the quizzes held in the IITBombayX.

Basic Flow:

The Course Coordinator goes to his dashboard page, where he clicks on the MIS Reports tab. Here, he has links for downloading the details of performance in the following categories:

1. All students (link on the Performance Tab):
   1. The Course Coordinator can click on this tab/link to go to the page containing the links for all the students in all the courses enrolled under him, divided by courses, or grouped together.
   2. The page contains a tabular display containing the names of all the students, and a link to their course performances.
   3. There will be an option to download this information in pdf format, which can be used by the associate teacher.
   4. The Course Coordinator will also have the option to download all the student information in an unstructured format, which will include all the details of the course grades, and the quiz results of the students.
2. Course-wise and semester wise division of students (link on the Performance Tab):
   1. The students will be divided into the courses and the semesters they are in (chronologically), and links will be available for each one of them.
   2. On clicking the link, the Course Coordinator is taken to a page. The page contains a tabular display containing the details of all the students and the course they are enrolled in, together with the start and end date of the course, and the semester they are taking it in (in the case of the generic student, however, this will not be available).
   3. The columns will show the final grades of all the students in their respective courses.
   4. There will be an option to download this information in pdf format, which can be used by the associate teacher.
   5. The Course Coordinator will also have the option to download all the student information in an unstructured format, which will include all the details of the course grades, and the quiz results of the students.
3. Analytical results (link on the Course Analysis Tab):
   1. This includes all the analytical information that is provided by the InSight module of the IITBombayX system, to the associate teacher at the supervisory level.
   2. This provides information such as course performance graphs (using average course grades as metric for all students or individual course grades for single students) over the weeks, quiz performances over the weeks for the students (same as before, using the quiz grade percentages as metric). These will be available as separate tabs in both views 1 and 2 above.
   3. These views and details can be viewed in the browser and dashboard, and downloaded in pdf format.
4. The final results: These must be enabled by the Admin at the IITBombayX level, on the completion of the courses of the students. The admin enables these reports to be downloaded by the Course Coordinator, and the associate teachers and can further send them to the students in the courses under them.

Exception Flow:

1. If the associate teacher requests for the reports at a time other than the scheduled time for the corresponding report (hourly, weekly, daily), then he will see a message telling him that the data is not up to date for the generation of reports.
2. The associate teacher cannot request for the reports in the middle of courses and quizzes. If he does, he will be met with warnings saying that he will not receive up to date information if he tries to do so.

Postcondition: The Course Coordinator had accessed the student report successfully, and downloaded them if required.

**Program Coordinator:**

1) Use Case: View, Delete, and Update account of course coordinator

The Program Coordinator can view, insert, update and delete the accounts of the teachers teaching his course.

Actors: Program Coordinator

Precondition: He has to be logged into his account, and must have a course allotted to him.

Basic Flow:

1. Program Coordinator goes to his dashboard, and clicks on the 'Authenticate Course Coordinator' tab.
2. Options are available for the following operations:

* View the course coordinator currently allotted under his course, through a table.
* Insert a new course coordinator in the course by sending him an email containing a one-time activation link to create an account for the course coordinator. This assigns him a username and password.
* Update is used to change the details of the course coordinator in a particular course, such as changing his course allotted, and personal emotion.
* Delete an course coordinator's details from the current list, which deletes his entire details as an course coordinator.

Exception Flow:

1. During insertion of course coordinator via email, the dashboard compares the email input with the existing list to see if the person already exists as a course coordinator. If he does, then there will be a message showing the error, the operation will abort.

Postcondition: The program coordinator is able to view and manipulate the information about the course coordinator.

2) Use Case: MIS Reports

Purpose: The program coordinator can view performance reports on a course-wise, course-coordinator-wise, and student-wise manner.

Precondition: The Program Coordinator must be logged into the IITBombayX account.

Basic Flow:

1. The Program Coordinator will go to his dashboard and click on the MIS reports Tab.
2. He can then view the information in the following manner:
   1. Student-wise: He will taken to a page which gives a list of all the students under the institute.
      1. For each particular student, he can view the progress report of that student in a particular course by clicking on the corresponding link for the students.
   2. Course-wise: He will taken to a page which gives a list of all the courses under the institute.
      1. For each course, there is a link to the list of students under the course, divided by semester, in a tabular form, which also gives the aggregate scores in that course for the student.
      2. If the coordinator clicks on the name of the student, then he can view the performance of the student for that course individually.
   3. Course-coordinator wise: He will taken to a page which gives a list of all the course coordinators under the institute.
      1. For each course, there is a link to the list of students under the course coordinators, divided by semester, in a tabular form, which also gives the aggregate scores in that course for the student.
      2. If the coordinator clicks on the name of the student, then he can view the performance of the student for that course individually.

Exception Flow:

None

Postcondition: The program coordinator is able to navigate across the students in different course and course coordinators, and individually as well.

**Head of Institute:**

1) Use Case: Accessing and downloading performance reports

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

2) Use Case: Update Institute details

3) Use Case: Compare Institute Performance

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

4) Use Case: Register the Institute

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

**Admin:**

1) Use Case: Add Institute

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

2) Use Case: Remove Institute

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

3) Use Case: Task Reports

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

4) Use Case: View, Insert, Update, and Delete Head of Institute (HOI)

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

5) Use Case: Dump to Quiz table

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

6) Use Case: Issue Notices

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition:

7) Use Case: Compare the Performance among institute

Purpose:

Precondition:

Basic Flow:

Exception Flow:

Postcondition: