

TIMETABLE MANAGEMENT – ANALYSIS DOCUMENT

SEP1 CLASS Y GROUP 6 – DNFC()

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Summary

VIA's timetable manager needs a system to make timetables for students and teachers. The University has a lot of courses, yet a limited number of classrooms. Some rooms can expand their capacity, but only a few.

The process of making a timetable is: 1) importing a file from head of department with information about the current semester, 2) scheduling sessions for every class and course, and 3) showing those changes on a website where they can be seen by students.

The system represents a big step in creating timetables for students and teachers more efficiently and conveniently. A future update might include a login system, which would greatly improve privacy. It could also serve as a backbone for a system that could include a personal user profile including grade transcripts, absence record and possibly even feedback exchange between teachers and students inside the platform.

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Requirements

CRITICAL PRIORITY

1. As a timetable manager, I want to schedule a session so that teachers and students know when to get together for a session.
2. As a timetable manager, I want students and teachers to be assigned to the courses that they learn or teach so that these appear on their timetables.
3. As a timetable manager, I want to book classrooms for sessions so that students and teachers have a place to get together.
4. As a timetable manager, I want to be able to cancel sessions so that there are more classrooms available for other sessions.
5. As a timetable manager, the access to the planning tool should be limited to me so that I am the only one able to modify schedules.
6. As a timetable manager, I want to see only which classrooms are available when scheduling a class so that there are no overlaps.
7. As a student, I want to see my timetable so that I know when and where I have sessions.

HIGH PRIORITY

8. As a timetable manager, I want to reschedule sessions so that unforeseen events (illness, personal problems, events) do not get in the way of the intended number of lessons for each course.
9. As a timetable manager, I want the changes made to the schedules to be immediately available for students and teachers to see, so that they are always up to date with their timetables.
10. As a timetable manager, I want to remove students from a class so that I can assign them to another class if they have requested a switch.
11. As a timetable manager, I want to add students to a class so that they can have access to a new timetable if they have requested to switch classes.
12. As a timetable manager, I want to be able to assign two teachers to the same course when the course requires it.
13. As a timetable manager, I want to remove students from a course so that it will not appear in their timetable.
14. I want to be able to edit enrollment in a course so that I can add individual students to specific courses.

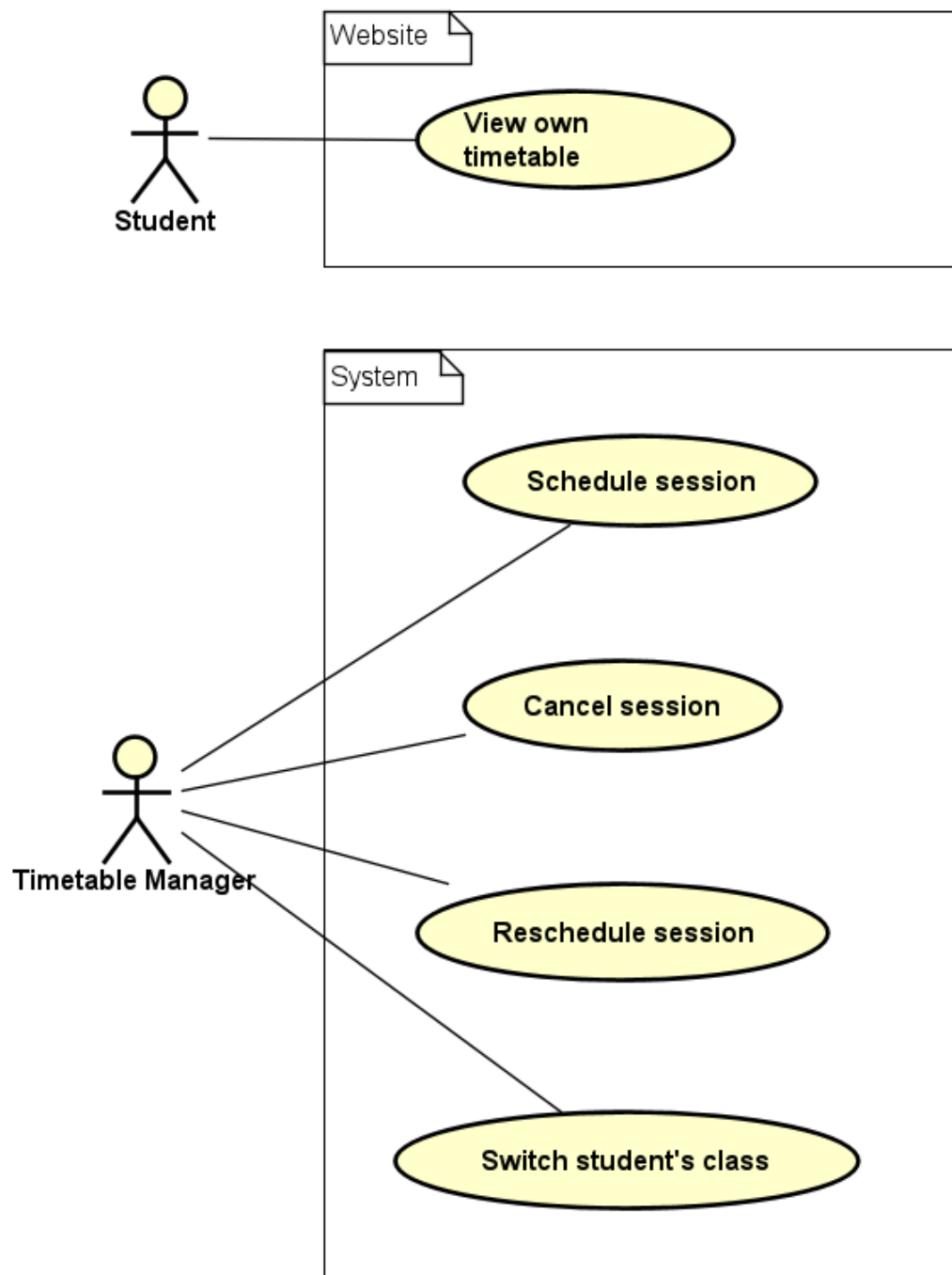
LOW PRIORITY

15. As a timetable manager, I want to be able to double the capacity of a room and merge two classes if it has a foldable wall.
16. As a user of this system, I want to see my schedule on a weekly format, so that I can see the sessions for each day.
17. As a user of this system, I want to be able to filter only the schedules that correspond to my class.
18. As a user of this system, I want to be warned when sudden changes appear in the schedules.

NON-FUNCTIONAL REQUIREMENTS:

19. As a timetable manager, when assigning a student with credits to a course from another semester, I want the system to check if a timetable without overlaps is available for this student.

Use case diagram



Use case descriptions

Use case	Schedule session
Summary	Schedule a session for a certain timeframe and book a classroom for that timeframe.
Actor	Timetable Manager
Precondition	The courses, students and classrooms must be registered in the system, given the information from the head of department
Postcondition	The timetable is updated for the students affected by the change. The classroom associated with the session is marked as booked for that timeframe.
Base Sequence	<ol style="list-style-type: none">1. Select semester, class, course.2. Select date, start time, number of lessons and number of repetitions (how many copies of the session will be created for future weeks).3. Select classroom.4. SYSTEM: checks for time overlaps with other sessions for the same class. If there are time overlaps, go back to 2.5. The session is scheduled.
Exception Sequence	
Note	After changes have been made, the schedules are updated and whoever accesses the website will see the new changes. The requirements met by this Use Case are 1, 3, 6, 9

Use case	Reschedule session
Summary	Select an existing session and change its date, start time, number of lessons and/or classroom.
Actor	Timetable Manager
Precondition	The courses, students and classrooms must be registered in the system, given the information from the head of department. There must be sessions scheduled.
Postcondition	The old session is cancelled and rescheduled at some other time or date. The timetable is updated for the students affected by the change. The classroom associated with the session becomes available for the old timeframe and unavailable for the new one.
Base Sequence	<ol style="list-style-type: none"> 1. Pick semester, class and week to look for sessions. 2. Pick a session for this class in this week 3. Pick a new date, start time and/or number of lessons. 4. Pick a classroom. 5. SYSTEM checks for overlaps. If there are overlaps, go back to 3. 6. Session is rescheduled.
Exception Sequence	
Note	<p>After changes have been made, the schedules are updated and whoever accesses the website will see the new changes.</p> <p>The requirements met by this Use Case are 8, 9</p>

Use case	Cancel session
Summary	Select an existing session and cancel it.
Actor	Timetable Manager
Precondition	The courses, students and classrooms must be registered in the system, given the information from the head of department. There must be sessions scheduled.
Postcondition	The selected session is cancelled and its corresponding classroom becomes available for other sessions to be scheduled.
Base Sequence	<ol style="list-style-type: none"> 1. Pick semester, class and week to look for sessions. 2. Pick a session for this class in this week. 3. Session is cancelled.
Exception Sequence	
Note	After changes have been made, the schedules are updated and whoever accesses the website will see the new changes. The requirements met by this Use Case are 4, 9

Use case	Switch student's class
Summary	Select a student and switch him from one class to another.
Actor	Timetable Manager
Precondition	Students must have been registered and assigned to classes inside of the system.
Postcondition	The selected student is assigned to a new class.
Base Sequence	<ol style="list-style-type: none"> 1. Search for a student by Class, Via ID or Name. 2. Select them. 3. Choose new class. 4. The student is switched to the class chosen.
Exception Sequence	
Note	The requirements met by this Use Case are 10 and 11

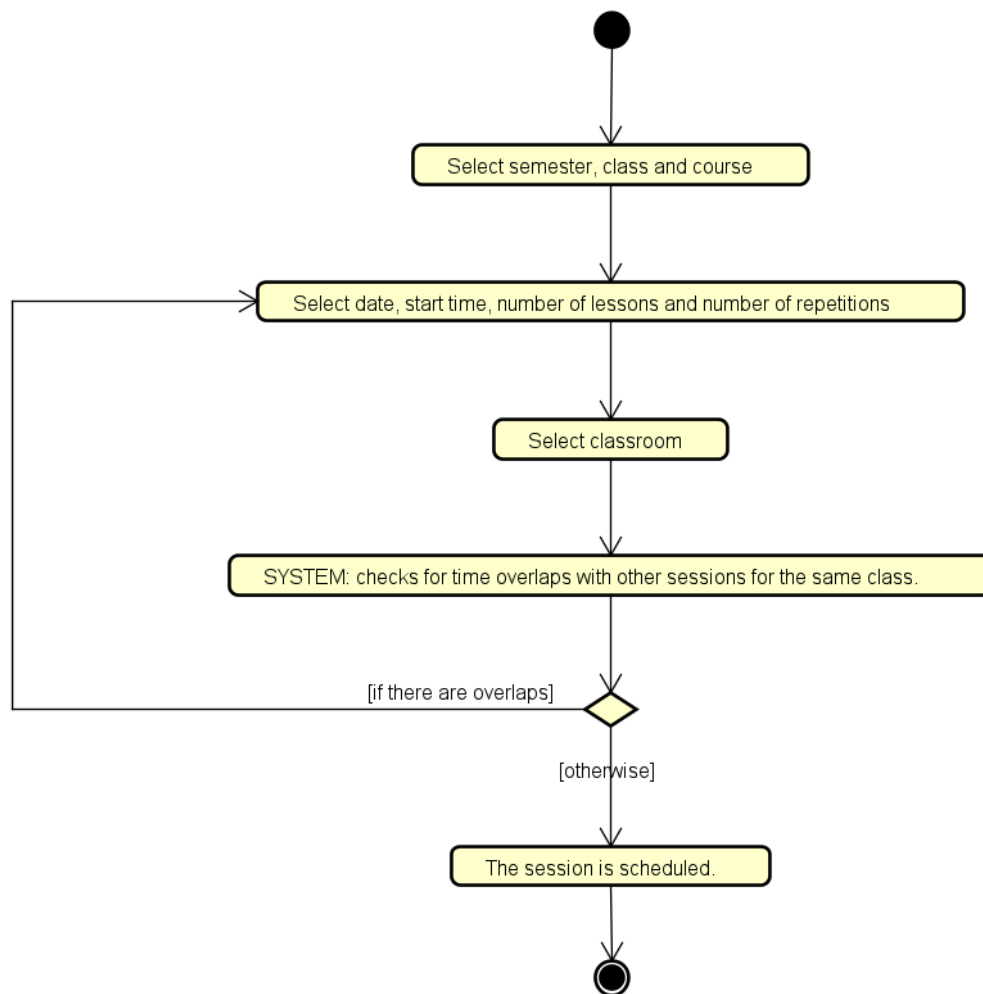
Use case	View own timetable
Summary	A student can see their own timetable inside of the website.
Actor	Student
Precondition	The courses, students and classrooms must be registered in the system, given the information from the head of department. There must be sessions scheduled for the student.
Postcondition	The student gains knowledge of their timetable.
Base Sequence	<ol style="list-style-type: none"> 1. Open the website. 2. Open the schedule webpage. 3. Select own class. 4. The timetable is loaded and the student can see it.
Exception Sequence	
Note	The requirements met by this Use Case are 7, 16, 17

Relation between requirements and use cases

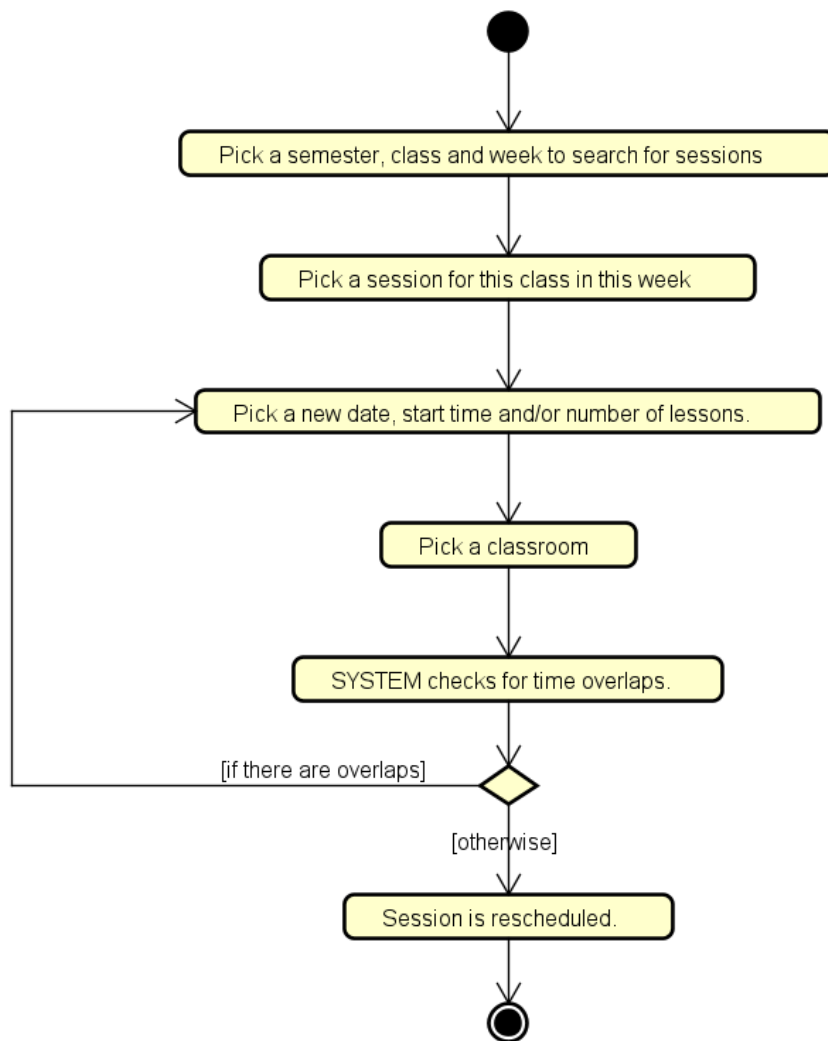
Use cases	Covered requirements
Schedule session	1, 3, 6, 9
Reschedule session	8, 9
Cancel session	4, 9
Switch student's class	10, 11
View own timetable	7, 16, 17
No use case in particular	2, 5

Activity diagrams

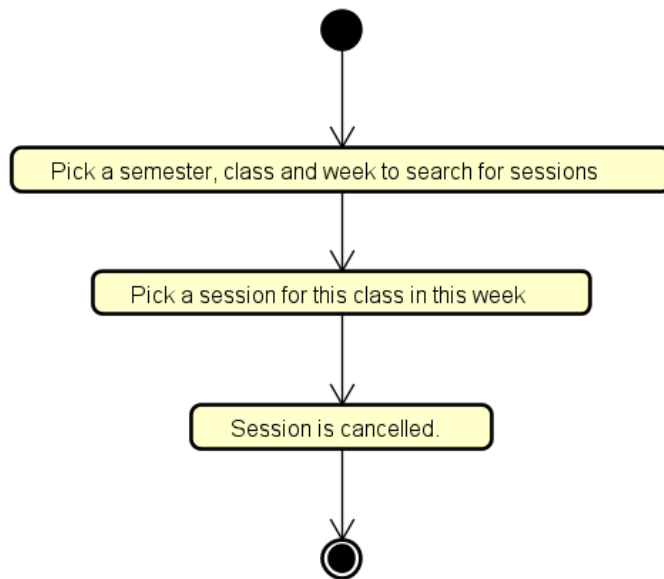
Schedule session



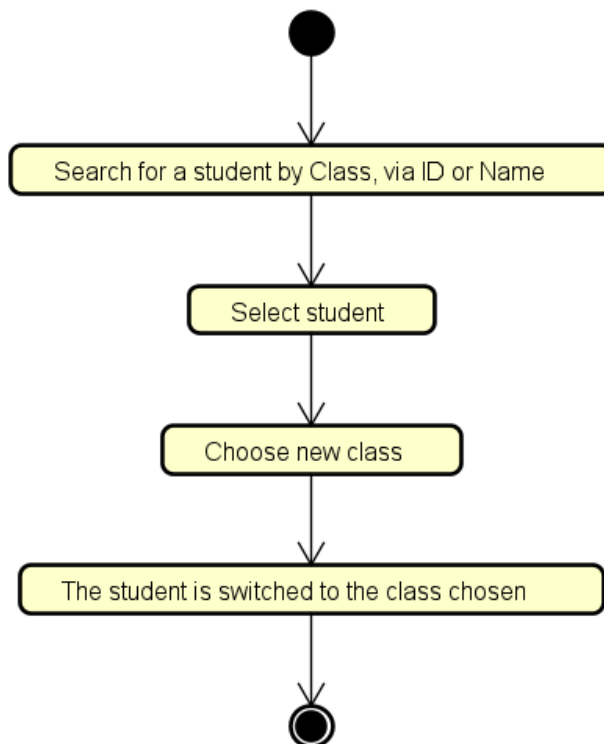
Reschedule session



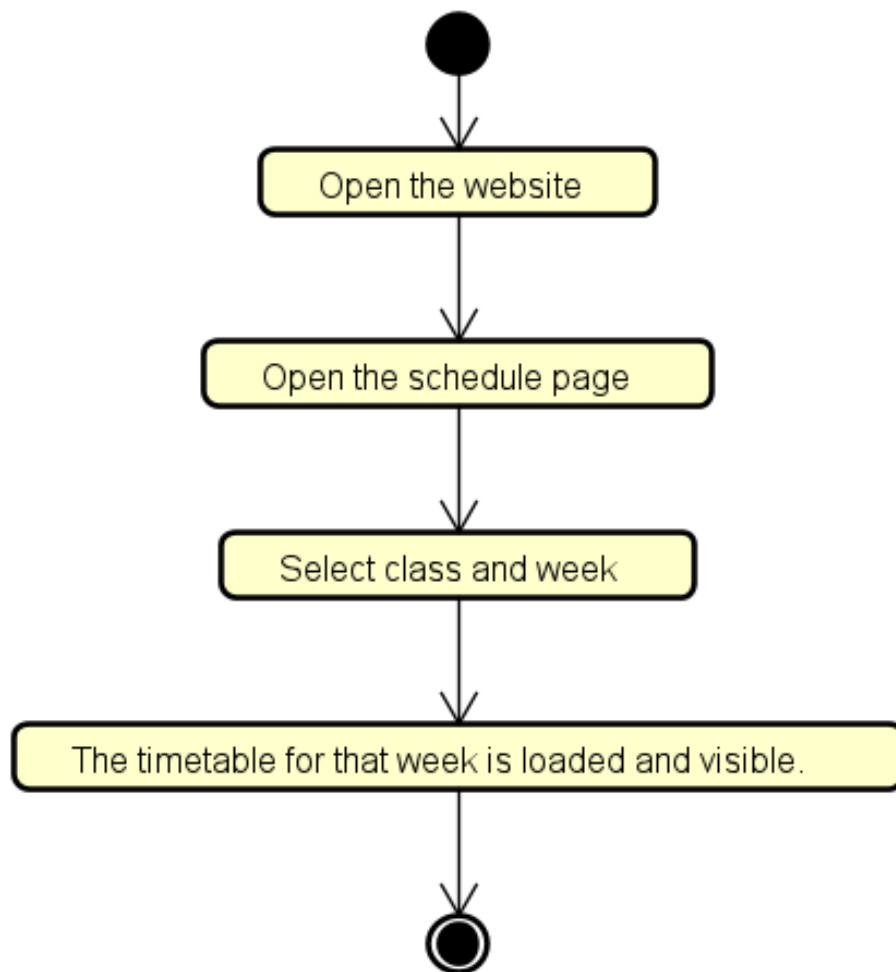
Cancel session



Switch student's class



[View own timetable](#)



Domain model

