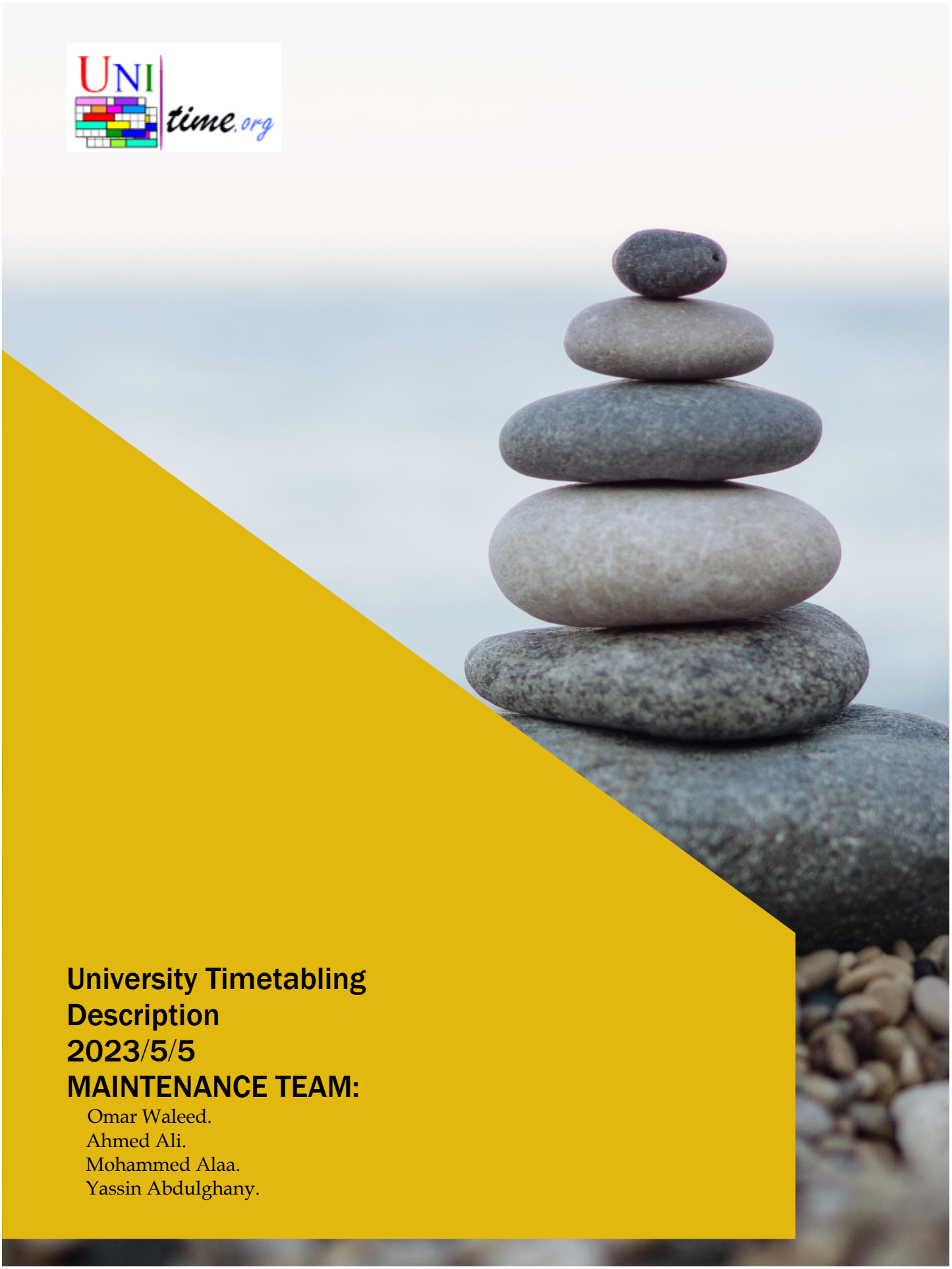

University Timetabling Description

2023/5/5

MAINTENANCE TEAM:

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General Knowledge Description

Uni-Time is a comprehensive software application for university timetabling and scheduling. It is an open-source, web-based application that provides a wide range of features and functionalities to help universities and colleges create and manage class schedules efficiently and effectively. Here are some of the key features of UniTime:

1. Course Management: Uni-Time allows administrators to input course information, including course name, course code, instructor, and other details. This information can be easily managed and updated through the application's user interface.

2. Room Management: Uni-Time allows administrators to manage room information, such as room capacity, availability, and features. This information can be used to ensure that classes are scheduled in the appropriate rooms and that all necessary resources are available.

3. Instructor Management: Uni-Time allows administrators to manage instructor information, including availability, preferences, and qualifications. This information can be used to ensure that instructors are assigned to the appropriate courses and that their schedules are optimized.

4. Schedule Generation: Uni-Time uses advanced algorithms to generate schedules that meet all of the constraints and requirements of the university. This includes constraints such as room availability, instructor preferences, and course prerequisites.

5. Conflict Detection: Uni-Time is designed to detect conflicts and errors in the scheduling process. This includes conflicts such as overlapping classes, insufficient resources, and instructor availability.

6. What-if Analysis: Uni-Time allows administrators to conduct what-if analysis to explore different scheduling scenarios and make informed decisions. This can help to identify potential scheduling conflicts and optimize resource utilization.

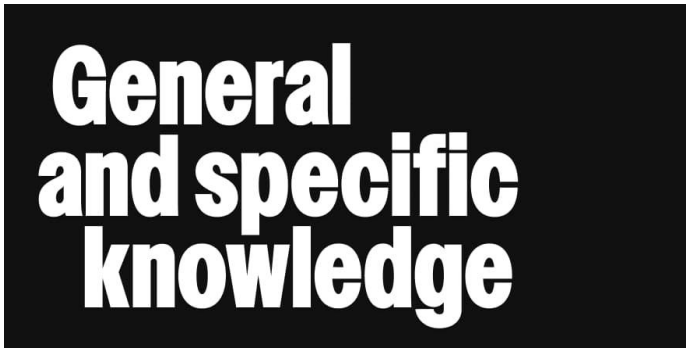
7. Reporting: Uni-Time provides a range of reporting options to help administrators visualize and analyze scheduling data. This includes reports on course and room utilization, conflicts, and scheduling statistics.

8. 8-Integration: Uni-Time can be integrated with other university systems, such as student information systems and learning management systems. This can help to ensure that scheduling data is consistent across all systems and that information is easily accessible to all stakeholders.

Overall, Uni-Time is a powerful and flexible tool for university timetabling and scheduling. Its advanced features and functionalities can help to streamline the scheduling process, reduce errors and conflicts, and improve communication between administrators, teachers, and students.

Software Specific Knowledge Description

Uni-Time is an Eclipse (Maven war Project) that has been fully developed using java programming language for the back-end.
and JavaScript programming language for the front-end with XML interfaces.
It uses Apache Tomcat server for deployment and uses MySQL, Oracle, PostgreSQL for managing its database.
The Project infrastructure is based nearly like the MVC pattern.



Techniques used to get the General/Software Specific Knowledge

We used the **Opportunistic Approach** technique:

- As we see that in the General Knowledge we used the **Top-Down Technique** to gain an overview of the functions/structure of the project.
- And in the Software Specific Knowledge we used the **Bottom-Up Technique**
- As when we looked at the Java Source package (src code - level) and documentation of the project we verified that our general knowledge is correct.