High School Scheduling System

Software Requirement Specification

Project 3, INF-2

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1. Introduction

This introduction provides an overview of the entire SRS, starring from with the **Purpose** of this document. In a later part, the **Scope** of the Development Project can be found. The same identifies the Name of the Software Product, the required functionalities and relevant benefits that it brings. This Introduction includes a section, regarding **Definitions, acronyms and abbreviations**, where all of the terms and abbreviations, that are being used in content of the SRS can be found with their definitions. This section is required in order for the reader to properly interpret the content of this SRS. The latter is being followed by section of **References**, where information about all of the documents referred in the SRS, can be found, as well as sources from where the same can be obtained by the reader. This chapter ends with an **Overview**, that describes the remaining contents of the SRS and It's organisation.

1.1 Purpose

The purpose of this document is to collect and analyse all ideas, standards and requirements for the end-Software product, which is going to be a Scheduling System for a High School. This document provides a detailed overview on the Project Stakeholder's (also referred to as "Clients") goals, that should be achieved by the Delivered Software Product. It also describes the intended Product audience and the different functional and non-functional Requirements, which are being set by the Client. This includes the User Interface, Hardware and Software requirements. The requirements, presented on the next pages of this Software Requirements Specification(later referred to as "SRS"), clearly define How the client sees the Software Product. This document also defines the Scope of the product - What exactly the Software should do.
This document can be used for verification, at the end of the project, as the client can do a comparison of the defined requirements and the functionalities of the delivered Software product. In order to avoid ambiguity, this SRS clearly states what the client wants in the Software. In addition to this, the SRS assures that the Development team and the Project Stakeholders have the same understanding of what should be delivered at the end.
In short, the Software Requirements Specification can be seen as the agreement between the Development Team and the Project Stakeholders, regarding what problems should the Software solve.

This Software Requirements Specification is meant to be read by the following, including :
the Development Team of this Product. This is due to the fact that the document can clearly point out the functionalities, that should be developed. Furthermore, Developers will have a clear idea where to invest their time and effort.
Project Stakeholders can refer to this SRS, as they can validate that the requirements are being correctly defined and implemented. In addition to this, the content of the SRS can easily be used to create estimations for the required resources. In addition to this, Project Stakeholders can use the information in this document, in order to verify that the end-product meets the pre-defined requirements and expectations.
Project Testers can use this document, so that their testing can be more methodically organised. This is due to the fact that problems and bugs are easier to find, when using a requirements document.
End-Users can benefit from reading the Document, in cases they would like to know more about the System and the process of creation behind it.

1.2 Scope

High School Scheduling System will be a web platform for creating and viewing High School Schedules for the staff and Students of the Project Management Stakeholders. The Software Product will provide possibility for the High School Scheduler to effectively create a Class schedule. The same schedule is going to be visible by students, who visit the platform, in order to get information about their regular schedule, disruptions and other schedule-related news. The Schedule System is going to notify the relevant students, in case of a Time Change or Class Cancellation via Email. The Scheduling System will also provide a possibility for teachers to

report, when they are being absent. The web platform will provide information, regarding the availability of each individual classroom and teacher.
The usage of ScheduleIT will provide more dynamic behaviour to the School Schedules, which is a problem at this point. This is due to the fact that Schedule changes cannot be announced on time, resulting in Students and Teachers often finding themselves at the wrong location or in the wrong time. This issue will be solved by adding the possibility of registering and announcing changes on the Schedule. In addition to this, the application will make the work of the Scheduler more efficient and effective. This is because they will be able to easily construct a schedule, through the functionalities of the platform. The same functionalities will make sure, that the constructed schedules will be according to the rules of the Educational Organization and they will eliminate the possibility of having double-booked classrooms or lecturers having two classes at the same time. Furthermore, the amount of time, required for a Schedule to be created, is going to be significantly decreased. This will be beneficial for the Schedules to be ready on time.
Internal Communication is going to be improved as well, due to the fact that Teachers will be able to register their absence and send Change Requests through the platform, which will result in an immediate Email notification, towards the Scheduler. The External Communication, between the Administration and Students is going to be more effective, due to the fact that Students will receive immediate email notification, in case of any disruptions on the Schedule. Students will be more informed about theirs and their teacher schedule, as both are going to be visible on the platform. The User Interface for the Students can be beneficial for their Study planning, as Exams and Assessments are going to be marked with a Separate Colour. ScheduleIT will be useful, when a physical copy of the schedule has to be created, due to the fact that a Print option will be available. The same will be able to create a good-looking PDF version of the schedule, that can be later printed out.
Taking in account the benefits above, It is proper to outline that ScheduleIT is not going to fully replace the work of the Scheduler. The platform will improve the work of this role, but it will not have an intention of replacing it.

1.3 Definitions, acronyms and abbreviations

Term	Definition
Project Stakeholder	Any person with interest in the project, excluding Developers
Project Management Stakeholders	Administration of the High School, also referred to as “Project Owner”.
Scheduler	Person, who’s main work responsibility is creating and editing the School Schedule
End-Software-Product	Reference to the final version of the Scheduling System.
Project Testers	Part of the Development team, who’s main role is to evaluate System’s functionality
Schedule Change	Any change made on the timing or location of the classes.
Module	Combination of System Functionalities, combined around a common purpose.
UI	Acronym for “User Interface”
OS	Acronym for “Operating System”

Time Block	Reference to a 30-minute lesson.
Absence Case	Reference to an Absence leave of a Teacher.
Schedule Resources	Reference to Teachers and Classrooms.
Login token	Reference to an authentication token, sent from the Password Service towards the Scheduling System, after a User signs-in with their Student / Employee account. This token is mandatory for authenticating into the Scheduling System. This token provides information, regarding User's role into the Organisation.
Absence notice	Generated by the Absence Register. Notice is being created when Teacher Reports absence in the Absence Register. The same Notice is then Forwarded to the Scheduler
Absence Registration	Generated in the Absence Register by a Scheduler. When a Notice is being sent and forwarded to a Scheduler, they register the Absence. This Registration cancels all Classes assigned to the Teacher, during the duration of the Absence. Cancellation can be replaced by "Teacher Replacement"
Teacher Replacement	Referring to an Event of assigning classes of one teacher to another.
Holiday Request	Reference to Teacher's Requests for taking days off.

1.4 References

The structure of this document was referenced from **"IEEE Recommended Practice for Software Requirements Specifications" ISBN: 0738103322**

1.5 Overview

The remaining content of this SRS is being split into two chapters, each with individual responsibility and purpose. Both of them describe the same Software product in its entirety. The difference between them is the level of detail and intended audience.

In the following chapter of this document, readers will be able to find descriptions of the general factors, affecting the product and its requirements. However, specific requirements are not going to be part of this chapter. This is due to the fact that Chapter 2 - **Overall Description** provides a stable background, that makes the understanding of those requirements easier. The same are defined in details into the 3rd Chapter of this document - **Specific Requirements.** There, Readers will be able to find all of the Project's Software Requirements, uniquely identified and specified in details. In addition to this, the described chapter contains all of the Functions, performed by the System as response to an input or support of output. This part of the SRS is mainly intended for the Development team and Project Testers.

This document ends with a section of **Supporting Information**. In this section readers will be able to find the Appendixes and Table of Contents.

2. Overall Description

The current chapter of the SRS provides description of the general factors that affect the High-School Scheduling system and it's requirements. However, this chapter does not state specific requirements for the Scheduling System, but instead provides a descriptive background for them. The same requirements are defined in the following, third chapter of the document - **Specific Requirements,** where readers are able to find detailed requirements description.

This chapter of the Software Requirements Specifications is composed of six sub-sections. First of which is the ***Product Perspective***, which puts the High-School Scheduling System into perspective with other related products. In addition, this sub-section provides description, in regards of how the Scheduling system operates inside various constrains. The same include System and User Interfaces
This sub-section is being followed by one that provides summary of the main functions, which are going to be performed by the Scheduling System. This sub-section is logically named ***Product Functions.***
Same is being followed by a sub-section of ***User characteristics,*** which provides information on the general characteristics of the intended users of the Scheduling system.
Then, sub-section about ***Constraints,*** follows and provides a general description of items limiting the options of the Development team, such as Security considerations and Reliability Requirements.
This chapter ends with a sub-section on ***Assumptions and dependencies*** that lists the different factors, that can affect the requirements, stated later in this Document.

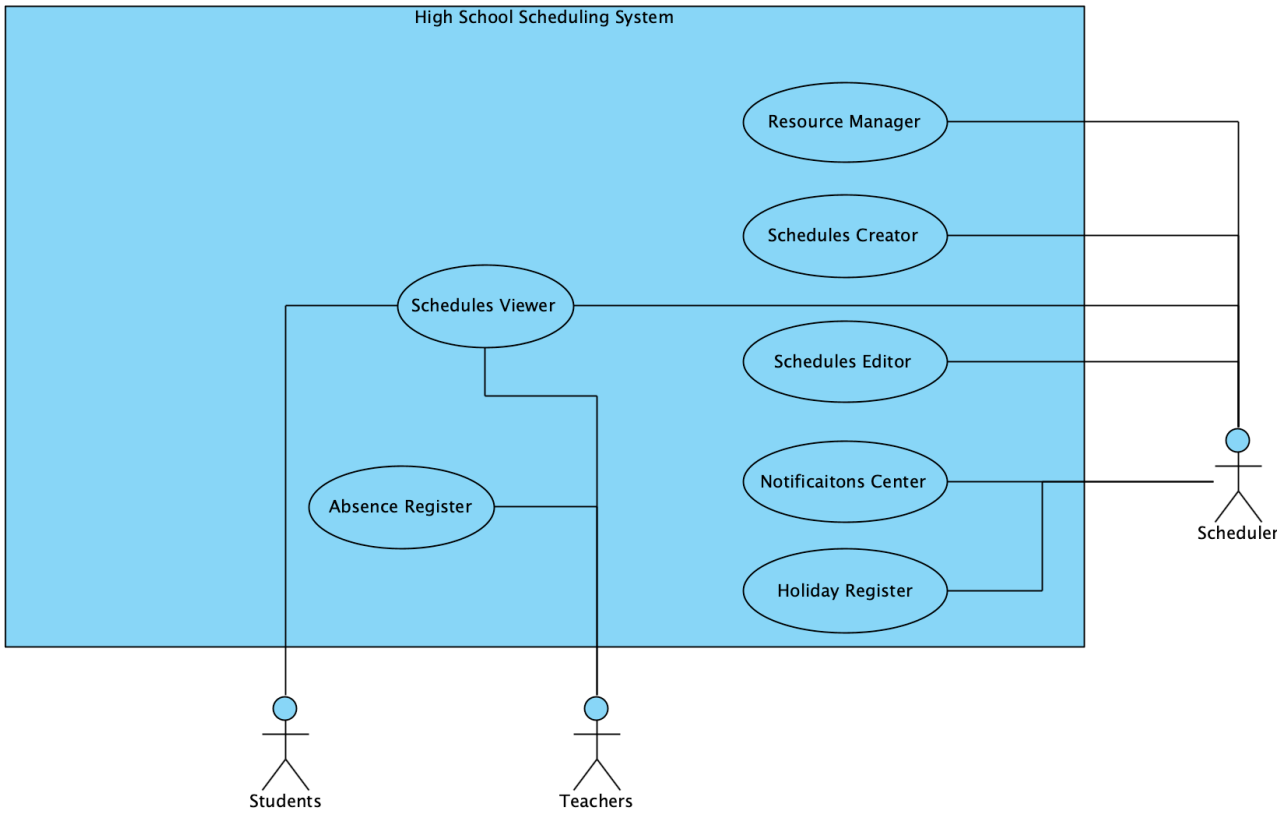
2.1 Product Perspective

High School Scheduling System is meant to be a closed source software product. It is a web-based application, that implements the client-server model. This Software Product is not an extension of any other Software Products, used within the Organization of the Project Management Stakeholders. Instead, it is a self-contained application.
The Scheduling system provides a dynamic mechanism for School Schedulers to create, edit and publish class schedules. In addition to this, it provides the possibility for Students to acquire a dynamic view and receive notifications, when changes affect their schedules. Furthermore, it allows teachers to request Schedule Changes and Report absence, due to sickness.
The only component, to which the system is dependent is

The following diagram illustrates the main components of the Scheduling System and their users. It is important to outline the fact, that each component is an internal part of the Scheduling System.

- **Schedules Viewer** - Dynamic view of the Class and Teacher's Schedules. A search bar is available within this viewer. The same allows visitors to search for a specific schedule. This Component is being used for visualising existing schedules.
- **Absence Register** - This component shall be used by teachers. In order to register their absence, due to sickness.
- **Holiday Register -** This part of the system is meant for teachers to send their Holiday Requests. In addition to this, it will forward these requests to the Schedulers. Furthermore, Schedulers will be able to use this module to Approve or Reject the Holiday requests.
- **Notifications Center** - This module shall be used to send Notifications to Students and Staff. Sending notifications is also possible through the **Schedules Editor**(which uses the current module for the purpouse). Schedulers shall be able to use the Centre to send other schedule-related notifications.
- **Schedules Creator -** Main Module for the Schedulers. It shall be used for creating class Schedules, by associating Room, Teaching Module and Teachers together.

- **Schedules Editor -** This module provides functionalities for performing changes on already existing schedules. Changes include : Time change or Location change. When a change is being performed, Editor will use the Notifications Centre in order to notify the affected students.
- **Resource Manager** - This module combines functionalities for adding/removing and editing Resources of the High School, which are involved into the schedule. Such are Classrooms and Teachers.



2.1.1 System Interfaces

High School Scheduling system is going to be a web application, hence this requires all users to have internet connection. Without such, they are not going to be able to use any of the System's functionalities.

2.1.2 User Interfaces

Each User Group is going to use the System via a different User Interface, depending on their role in the Organization. However, each User Interface is going to be standardised, when different groups share the usage of the same Modules / Functionalities.

- **Students** - Classes of Students will be marked in special colour for this purpose. Exams and Cancellations will be marked, each in a different unique colour. Search bar is going to be available and can be used to browse and search for other Schedules. For example, a Student can check Schedules for different teachers and other classes. Students will be able to see the location of their class, visible on the each class time block. Option for Downloading a PDF version of the schedule is going to be available.

- **Teachers** - Teachers will be able to navigate between "Viewing Schedules, Holiday Register and Absence Register". Their classes are going to be marked in a unique colour, different form

the one indicating their Holidays. Schedules will be available as a PDF Download, through a button for this purpose. Search bar is also going to be available for this role, allowing Teachers to view schedules for specific classes or other teachers. When Requesting a Holiday, teachers will be able to see the status of their previous requests.

- **Schedulers -** Schedulers will have a navigation on their Homepage. They will be able to choose between “Create Schedule, Edit Schedules, Notification Centre, Holiday Register, Schedule Viewer and Resource Manager”. In the Schedule Creator, each Lecturer and Room is going to be marked with a red or green colour, depending on their availability at the current time slot. When creating new Schedules, the UI will provide the Scheduler with the possibility to associate each Teaching Module with relevant teacher and available room for the current time slot.

2.1.3 Hardware Interfaces

This Software Product requires computing power, which is capable of supporting an OS with Internet Browser, supporting HTML5. In addition to this it Requires a Keyboard and a Mouse, as Hardware Input Devices. The same can be substituted by a Touch Screen.
As a Hardware Output Device, the product requires the usage of a Screen with a minimum size of 4.0 inches.
Since the System is going to be web-based, it requires users to have a Network card, that can ensure connectivity of minimum 5 Mbps.
High School Scheduling System supports all computing devices, that operate according to the previously stated hardware requirements, despite their Manufacturer, OS, or Portability.

2.1.4 Software Interfaces

For the Internal Storage of Information, the implementation is going to use an open-source Database Management System - PostgresSQL. However, this storage is not going to include the individual accounts of each User. The system is going to use an external password service, which Students and Staff use to log-in into other School platforms.

In order to use the High School Scheduling System, users should have an OS, that is capable of running any modern Internet browser, that supports HTML5.

2.1.5 Operations

Each User group is going to be able to perform specific operations, related to their role in the Educational Organisation. The main Operations, required by the different User groups are:

- **View Schedules** - User can open a web page, where they can see a visualisation of the different Class and Staff Schedules.

- **Search Schedules** - User can use the Search bar, in order to retrieve a specific Schedule. This happens by inserting search arguments, which can be : Name of a Teacher, Identification of a Class

- **Request Holiday -** User can file a Holiday Request, by specifying a start and end-date of the desired period.

- **Report Absence** - User can send an absence report, stating the reason behind it and the expected period of the absence.

- **Approve/ Deny Holiday Request** - User can view a list of the most-recent Holiday Requests, made by teachers. Using a UI Button element, User can Deny or Approve the Requested Holiday Period.

- **Send Notification** - User can create a new Email Notification by specifying the recipients, time for sending and its content.
- **See Notification History** - User can see a list of the most-recent Notifications that are being sent
- **Create Schedule** - User can create new Schedule for a given Class by assigning the Time block with Teacher, School Subject and a Classroom.
- **Edit Time Block** - User can edit a given time block for a class by changing Location or Time.
- **Cancel Time Block -** User can Cancel a given time block.
- **Add / Remove Classroom** - User can Add or Remove Classroom from the Inventory
- **Edit Classroom Details** - User can edit Information about a Classroom, including their Availability.
- **Add/ Remove Teacher** - User can add or Remove Teacher from the Staff list.
- **Edit Teacher Information** - User can edit Information about a Teacher, including their Availability.

2.2 Product Functions

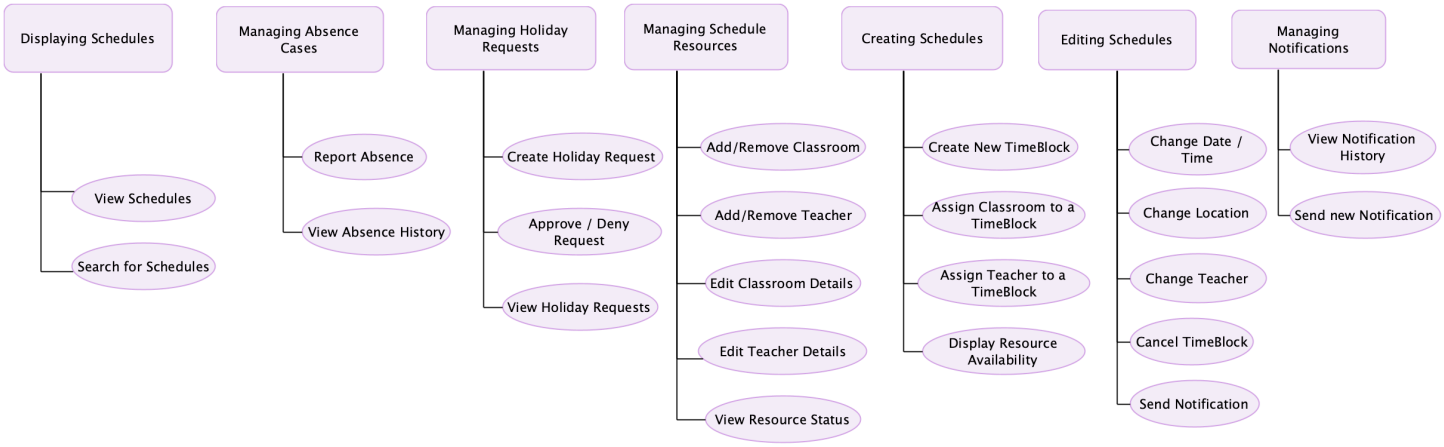
The main goal of the High School Scheduling System is to provide major support for Creating the School schedule and Managing changes on it. This is going to be possible by performing the following major functions:

- **Displaying Schedules** - System shall display Schedules on a Webpage, accessible by every user group. Students will have default Schedule displayed, depending on the Class they belong to. User will have access to a Search bar, through which they can browse to other available Schedules.
- **Managing Absence Cases** - System shall register and keep track of Absence Cases. This is going to be possible through an *Absence Register*, which will forward the information towards a Scheduler.
- **Managing Holiday Requests** - System shall accept and forward Holiday Requests from Teachers towards Schedulers. This will happen through a *Holiday Register*. Teachers will be able to use the Register to create and send their requests to a Scheduler. In addition to this, the same module will keep track of their previous Holidays. Schedulers can use the Register to Approve or Deny the same requests.
- **Managing Schedule Resources** - System shall keep track of Classrooms and Teachers. This is going to happen through a *Resource Management* module. In this module, Schedulers will be able to remove and add new Teachers to the Staff list, as well as add Classrooms to the Resources. In addition to this, Schedulers will be able to specify and edit details about availability of the added resources.
- **Creating Schedules** - System shall provide functionality of combining Subject, relevant teacher and Classroom in order to create a Time block, when a given Class is going to take place. When a Scheduler is creating a new Schedule, System shall display the available classrooms at the specified time and the available teachers, depending on the Subject. This functionality is supported by the *Schedule Editor* module.

- **Editing Schedules** - System shall provide the possibility to Schedulers to change the Time and Location of each Class. This happens by the usage of *Schedule Creator* module. When a change happens on the schedule, System will send an Email Notification to the affected students.

- **Managing Notifications** - System shall provide functionalities for Managing the outgoing Email Notifications. Users of this functionality will be able to see the previous sent Notifications(their content, date and recipients). This will be possible by the usage of *Notifications Centre*, which will also provide possibility to compose and send new Notifications. When using this option, Users should specify the Recipients, time of sending and content of the new Notification.

The following Diagram provides a general overview of the major System Functions and their sub-functionalities:



2.3 User Characteristics

High School Scheduling System is meant to be used by 3 main User Groups : Students, Teachers and Schedulers. Each of these can be described, using the following characteristics:

- **Students** - Students are expected to posses a Primary School educational level. Professional technical expertise is not required for the usage of this Software Product. The required technical skill for Students is Basic Internet Browsing.

- **Teachers** - Teachers are expected to posses a High-Education Degree in the subject they are teaching. They are required to be able to fill simple online forms as Absence and Holiday Registers are going to work with such. Other Technical Expertise is not required for the usage of the System

- **Schedulers** - This User group is expected to posses a High-Education Degree in the field, related to Business Administration. Schedulers are requried to be able to fill online forms and work with basic UI elements, such as Buttons.

2.4 Constraints

In order for the High School Scheduling System to provide relevant support to the Project Stakeholders, it should operate according these several constrains:

- **Length of a Teaching Time Block** - A class shall not take longer than 30 minutes.
- **Schedule changes are done only by Schedulers** - Schedulers is the only User Group, that is allowed to make changes on the Schedules.
- **Double-booked Classrooms** - It is not allowed to have more than one class into the same classroom, at the same time.
- **Teachers teaching only one class at a time** - It is not allowed for a teacher to teach more than one class at the same Time block.
- **Rooms Availability** - Classes cannot take place in rooms, that are marked as “not available”. For example, Class cannot take place in a room, which is being repaired at the same time.
- **Initial Creation of Schedules** - Schedules should be initially created at the beginning of each Academic Year.
- **Last-minute Changes** - The only Last-minute change that can be made is “Cancellation due to Teacher Absence”.
- **Teacher Availability** - Classes cannot be scheduled with teachers, that are not being available at the time. For example, Teacher cannot be scheduled a class if they are on Holiday, at the exact same time.
- **Deadline for Changes on the Schedule** - Changes can be added up to 2 weeks in advance. Afterwards they become permanent.
- **Classes cannot be Scheduled on National Holidays** - Classes cannot take place, during National Holidays, when the institution is not working. For example, Mathematics class cannot take place on Christmas.
- **Capacity of Rooms** - A class cannot take place if the number of seats is smaller, than the number of Students.

2.5 Assumptions and dependencies

Authentication and Authorisation of the Users is going to happen through a Password Service of the High School. In other words - Students and Staff will log in, into the Scheduling System, using their pre-existing Student / Staff Account. The same that they use for other Software Products of the High School Organisation. Due to this, the High School Scheduling System is not going to store any User Login Credentials. On the other hand, this is creating a permanent dependency of the System towards High School’s Password Service.

3. Specific Requirements

This Chapter of the Document contains all of the software requirements, detailed to a level sufficient for designers to create a System that satisfies the stated requirements. In addition to this, it allows testers to ensure the requirements satisfaction.
Each Requirement in this chapter has a unique identifier, a relevant description and information on every input(into the system) and output(from it).

3.1 External Interfaces

The current Sub-section of this chapter provides a detailed description of all inputs and outputs from the High School Scheduling System. It also complements the interface descriptions of the last chapter.

Name of Item: High School Password Service

ID of Item: EI01

Description of Purpose: *User Authentication / User log-in*
Source of: *Input*
Units to measure*:* **Number of exchanged login tokens.**
Accuracy and Tolerance: *Authentication is crucial part of Security, so Accuracy should be at 100%, without tolerance of wrong input.*

Description: *Users use their pre-existing Student/Staff accounts in order to log in, into the Scheduling System. This happens through the usage of external Password Service.*
If there is an active log-in(User has log in into their account already) in user's cookies, the Password Service will send a valid login token to the Scheduling System.
If there is no active log-in, a Log-in page for the Password Service is going to appear. If the Visitor provide a valid authentication details, an active login will be stored in their cookies and a valid login token will be provided to the Scheduling System.

Requirements:

EI01.1 - System shall request a login token from the Password Manager, in order to ensure authentication.

EI01.2 - System shall not authenticate Users to the Scheduling platform, without a valid login token

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Name of Item: Email Service

ID of Item: EI02

Description of Purpose: *Sending Email Notifications*
Source of: *Output*
Units to measure*:* **Number of Sent Notifications : Number of outgoing Notifications from the Service.**
Accuracy and Tolerance: **Email Service should be reliable, as Email Notifications are crucial to the Scheduling System. Accuracy is important, as Users should receive notifications with the correct content. A maximum Tolerance shall be 5 minutes delay after the desired time of sending.**

Description: *Scheduling System sends requests towards the Email Service, when an Email Notification has to be sent.*

Requirements:

EI02.1 - Request Shall contain:

a. Recipients of the Email Notification
(in format receiver@maildomain)
b. When should the Notification be sent
(in format dd-mm-yy-hh-mm)
c. Content of the Notification
d. Creator of the Notification(in format: Employee ID)

EI02.2 - System shall be able to create and send Requests towards the Email Service, when a relevant trigger is being used.

Name of Item: Schedule Viewer UI

ID of Item: EI03

Description of Purpose: *Displaying Schedules*
Source of: *Output*
Units to measure*:* *Uptime, Time for changes to be published.*
Accuracy and Tolerance: **This Item should be up to date, according to the last Schedule Changes. Maximum Tolerance shall be 5 minutes from the time of pushing the changes.**

Description: *Scheduling System displays most updated Schedules.*

Requirements:

EI03.1 - A Viewer's User Interface shall contain:

a. Search bar for browsing other Schedules.
b. Indicator for the Week's number, that is being displayed
c. Indicator for the Day of the Week
(in format Monday, Tuesday)
d. Timestamp for the Hours and Minutes
(in format hh:mm for every 15 minutes)
e. Name of the Class
f. Location of the Class
g. Teacher's name(in format: Teacher's Surname)
h. Start time of a Class(in format hh::mm)
j. End time of a Class (in format hh::mm)

EI03.2 - Regular Classes shall be coloured in Blue.
EI03.3 - Exams shall be coloured in Red.
EI03.4 - Holidays shall be coloured in Orange.
EI03.6 - System shall display Personal Schedule, if the User is a Teacher.
EI03.7 - System shall display a Search bar for Searching through Personal Schedules if User is a Scheduler.
EI03.8 - System Shall Display Cancellations in Grey

Name of Item: Absence Register UI

ID of Item: EI04

Description of Purpose: *Displaying Absence Register Elements.*
Source of: *Input*
Units to measure*: Uptime, Number of Absence Notices : Number of Absence Registrations .*
Accuracy and Tolerance: This item shall accept and forward Absence Notices accurately in terms of timing and Information. This means that the possible Tolerance shall be no more than 5 minutes after the Notice Creation.

Description: *Absence Register supports teachers in Reporting Absent. It creates and forwards their Notice towards Scheduler. From there, an Absence Registration is being created. During it's creation Scheduler shall be able to select wether to Cancel or Select a Replacement Teacher.*

Requirements:

EI04.1 - A Viewer's User Interface shall contain:
- a. Form for Filling the Information, required for a Notice Creation
- b. Button for Sending the Absence Notice

EI04.2 - Absence Notice shall contain:
- a. Start date of Absence(in format dd::mm::yyyy).
- b. Expected end-date of Absence(in format dd::mm::yyyy).
- c. Short reason for the Absence.

EI04.3 - System shall display a List of Previous Absences Registrations.

EI04.4 - If an visitor is in a period of Absence(that is being pre-registered), System shall display an option to add additional information to the Absence Registration

EI04.5 - System shall display an option to prolong the Expected end-date of an ongoing Absence Registration

EI04.6 - System shall trigger the Email Service to Notify Schedulers when a new Absence Notice is being sent.

EI04.7 - System shall Display the following elements if the User is a Scheduler:
- a. List of Recent Absence Notices
- b. List of Ongoing Absence Registrations
- c. Search Bar for Browsing through Absence Notices and Registrations
- d. Option for Viewing each Absence Notice and Registration
- e. Option for Transforming a Notice into Registration

Name of Item: Holiday Register UI

ID of Item: EI05

Description of Purpose: *Displaying Elements for Sending Holiday Requests*
Source of: *Input*
Units to measure*: Uptime, Number of Requests Sent*
Accuracy and Tolerance: Holidays require Accuracy in terms of dates and duration of the Requested Holidays.
Description: *Scheduling System displays most updated Schedules.*

Requirements:

EI05.1 - A Viewer's User Interface shall contain:
- a. Form to fill all of the Information, required for a Holiday r request
- b. Button to Send the Request
- c. List that Displays the Previous Holiday Requests

d. List that Displays the Current Holiday Requests and their Status

EI05.2 - Holiday Request should contain:
a. Start and End-dates(in format dd-mm-yyyy)
EI05.3 - If User is a Scheduler, System should also display:
a. List of Recent Holiday Requests
b. Button for approving and Denying Holiday Requests

Name of Item: Notification Centre UI

ID of Item: EI06

Description of Purpose: *Displaying Elements for Sending Notifications*
Source of: *Input*
Units to measure*: Uptime, Number of Notifications Sent: Number of Email Service Requests*
Accuracy and Tolerance: Notifications require Accuracy in terms of timing and Content. Since Notifications are object of Urgency the Allowed Tolerance is shall be no more than 5 -minute delay after creating a new Notification.
Description: *Notification Centre UI contains UI elements for sending new Notifications.*

Requirements:

EI06.1 - A Viewer's User Interface shall contain:
a. Form to fill all of the Information, required for a Notification
b. Button to Send the Notification
c. List that Displays the Previous Notifications

EI06.2 - During Creation Notification should receive:
a. Desired time to be Sent
b. Recipients
c. Content

Name of Item: Schedule Creator UI

ID of Item: EI07

Description of Purpose: *Displaying Elements for Creating New Schedules*
Source of: *Input*
Units to measure*: Number of new Creations*
Accuracy and Tolerance: Created Schedules require Accuracy in terms of Content.

Description: *Schedule creator UI contains elements for Creating new Schedules*

Requirements:

EI07.1 - A Viewer's User Interface shall contain:

a. Index for the current selected Week
b. Button for adding new Time Blocks
c. Button for Assigning Classroom to a Lesson
d. Resource availability Indicator
e. Button for Assigning Teacher to a Lesson
f. Specifying Lesson's start and end-time
(in format hh::mm:)
g. Index for the current selected Day of the Week
(in format Monday, Tuesday)

Name of Item: Schedule Editor UI

ID of Item: EI08

Description of Purpose: *Displaying Elements for Editing Schedules*
Source of: *Input*
Units to measure*: Number of new Edits*
Accuracy and Tolerance: Schedule changes require Accuracy in terms of Content.

Description: *Schedule Editor UI contains elements for Editing pre-existing Schedules*

Requirements:

EI08.1 - A Viewer's User Interface shall contain:

a.Search bar, used for browsing through different schedules.
b. Button for selecting current Time Blocks
c. Button for changing Timing of a Class
d. Button for Class Cancelation

3.2 Functions

The current sub-section of this SRS defines the Functional Requirements of the System. These Requirements define the fundamental actions that should take place in the System when processing inputs from the Users and Generating the outputs.

Main Functions of the Absence Register

- 3.2.1 System shall forward new Absence Requests towards the Schedulers
- 3.2.2 System shall send Email Notifications, when new Requests are made

Main Functions of the Schedule Creator

- 3.2.3 System shall change resource availability status for the given time, when resource is being assigned to a Time block.
- 3.2.4 System shall register new Classes to the Personal Schedules of the Relevant Teacher

Main Functions of the Notifications Centre

- 3.2.5 System shall forward new Notifications towards the Email Service

Main Functions of the Schedules Editor

- 3.2.6 System shall create new Notifications, when a Schedule change is being made
- 3.2.7 System shall change Teacher's personal Schedules, when a relevant Change is being made

Main Functions of the Holiday register

- 3.2.8 System shall forward new Holiday Requests towards the Schedulers.
- 3.2.9 System shall send Email Notifications, when new Requests are made
- 3.2.10 System shall update Teacher's Personal Schedule, according to their Approved Holiday Requests
- 3.2.11 System shall send Email Notifications to Teachers, when the status of their request is being changed

3.3 User class

Different User group will have different type of authorisation, within the Functions of the System. This is due to the fact that their role is going to be different in the Educational Organisation

- **Students** - Students will be able to use the Schedule Viewer to view their Schedule. In addition to this, they will have access to the Search bar
- **Teachers** - Teachers will have the same authorisations as Students, but in addition to these they will be able to access the Absence and Holiday Register. However, the functionalities for approving Requests are not going to be available to them.
- **Schedulers** - Schedulers will posses all of the authorisations of the two previous groups. In addition to those, they will have access to the Resource Management,Schedule Creator and Editor and the Notifications Centre. They will also be able to approve requests in the Absence and Holiday Registers

3.4 Availability

The High School Scheduling System is crucial to the Educational Organisation. Due to this it should be functional 99% of the time. This means that the total downtime is going to be 4 days on a yearly base.