Software Requirements Specification (SRS)

For

TSPA – Fort Myers Unified Management System

Version 1.0 Approved

Prepared By: Chris Frank

Sponsored By: TSPA - Fort Myers

April 23, 2021

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1. Introduction

1.1 Purpose

TSPA Ft Myers is a facility that, like many organizations, has many moving parts. Currently, they are tracking their student enrollment, graduations, and their progress, along with the daily influx of clients (along with their specific needs), and employee work scheduling/ information using several different methods. With one unified system, all students could track their progress, leave notes on client's profiles, and any other daily operational support could be found on the individual level corresponding to access credentials. This will ensure these processes are not cumbersome, but happen more in the background, putting the focus where it belongs, on the learning process and the client experience.

1.2 Scope

Overview

The TSPA - FT Myers Portal will be the general login in which all systems will be accessed for each class of user. The Employee Schedule Management will be the portion of which the employees will be able to view their schedule and the management can set it. The Student Progress Tracker will be where the students are able to view their progress to graduation, along with other user classes with access to that information. The Client Appointment Scheduling will be where clients schedule/ view appointments and the administration and Students can view the appointments related to themselves.

Goals

The overall goal is to include each aspect of logging/tracking which takes place in TSPA and include one convenient, secure location for storing and accessing this information. This includes locations for each user class to manage and view relative information such as appointments, inventory, scheduling, and progress. This is all information that is stored now but is not easily accessible for each member or stored in a manner that is efficient for untrained users.

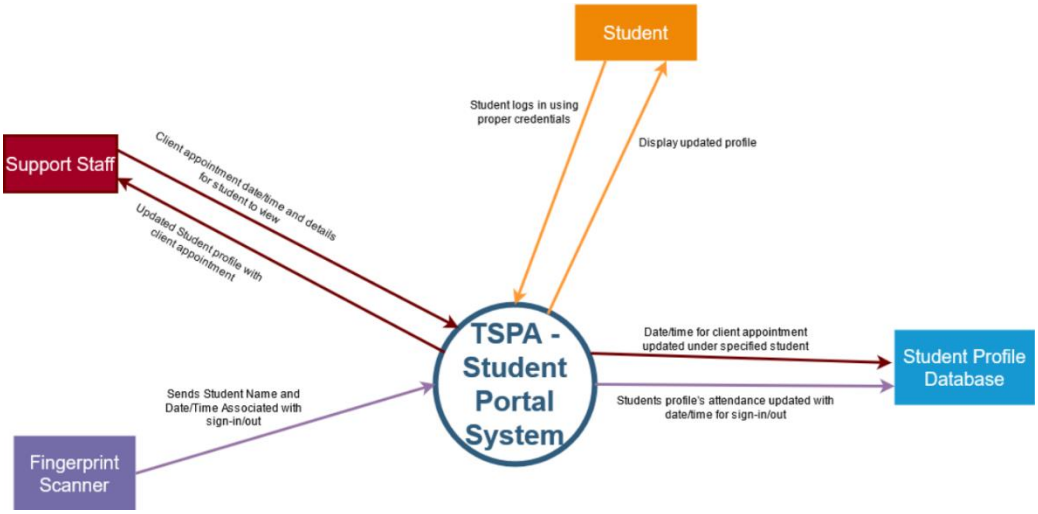
- The first portion to be completed of the system is the employee scheduling system. This should include the means for management to view and manage the schedule, and for staff to only view the schedule. This basic framework must be completed by May 1, 2021.
- The concurrent goal is for the student attendance information to automatically store in an accessible system by the management. This can be accessed through local computers on-location through the same application, but separate tab as the employee scheduling system. This must be completed a month after the first portion, June 1, 2021.
- A goal to be followed shortly after the student attendance view, the inventory count on hand will be entered on a list, by the employees related to this task. Each time the inventory count changes, there will be a log as to which user changed it, along with the date and time and an optional comment field. This will be completed within two weeks of the student attendance view, June 15, 2021.

Out of Scope

Currently, due to security concerns, personal information by the student will not be accessible through the system until all security possibilities are addressed. Due to this, the enrollment for each student will not be managed through the system. Additionally, payments will not be transferred, viewed, or interact in any way with the system. Each of these must be stored on a separate device and network as the system, once the system is accessible via the internet.

1.3 Product Overview

1.3.1 Product Perspective



A context diagram is a level 0 Data Flow Diagram. At this level, it involves one process node which interacts with external entities. This can go up in levels by including other process nodes which interact with each other and the external entities. This abstraction is useful to follow the flow of data, which helps better understand the overall processes taking place within the system. Starting with level 0 is a great way to understand or illustrate to clients or development teams the general structure of the system being created.

The process I took was determining what process to focus on. At the core of the system, there is one main processing system taking place, and that is tracking and updating student information. From there, I determined what interactions take place (logging attendance, and client appointments). These describe the daily activities for a student and for each of these activities, I started from the beginning, chronologically and worked my way to the system, through it and to the database, where all profiles are stored.

1.3.2 Product Functions

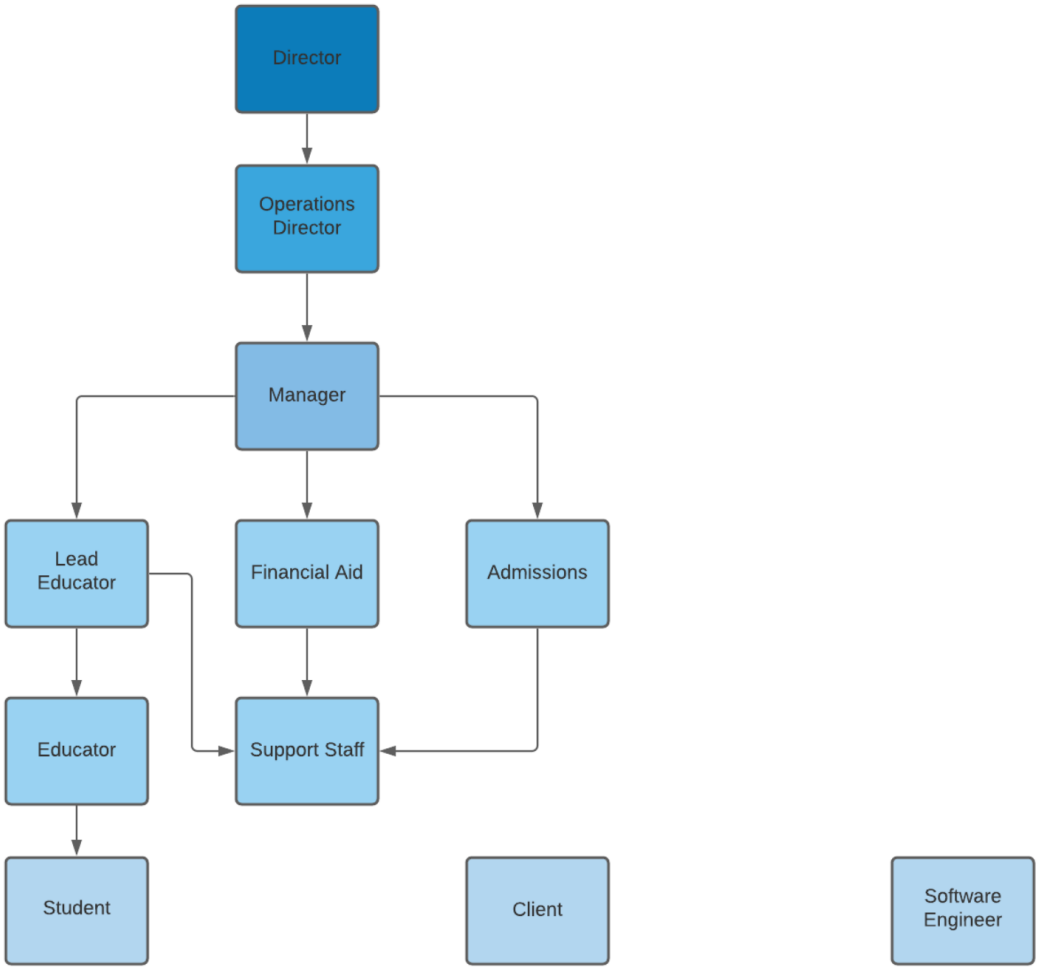
- The system stores the date and time Student arrive and leave in a manner which is viewable by the Educators and Administration.
- For accounting for products in the school, items will have a name, description and optional photo field along with the on-hand count, disposed and a sold count. This will allow for simple tracking of sales, usage, and accountability of products.
    - Products include shampoo, conditioner, etc.
- For each appointment and exam, the student's progress tracker will be updated for the possibility of being viewed by an Educator, that particular Student, or Administrator.

1.3.3 User Characteristics

Clients and Students will have the most restricted views. This will limit any usability issues that could arise from complicated features and security issues. The specific characteristics of these users cannot be assumed as each will vary greatly.

- Clients: Only able to view their own appointment(s)
- Students: Track appointments, view grades, and progress to graduation.
- Each of these views will be a simple, top-down format for ease of use.

Administration will have very different views depending on their specific user classes. The most complex will be for the Director, who will have the additional ability to allow other administrators access to restrictions to features for flexibility. The Director will be who ultimately decides the default access for each administrator. Each user class will have a similar (to the Client and Student classes) top-down tab view for each function. The educational levels for each of these is unrelated to the software, as well as experience or technical expertise. Any complications that arise during the mock-ups, prototyping, or releases will be addressed with a change in layout or catered training. If the client deems training necessary, they will appoint an administrator as a subject matter expert, or trainer, which will ensure each member of the staff understands the functionalities of the system.



1.3.4 Limitations

- Security must be fully addressed from an engineering and legal perspective before storing any student information due to FERPA laws.
    - This includes, but is not limited to: Address and social security
- Due to the limited hardware, the data will be stored in a concise manner, allowing for the removal of external storage of "old data". Also, due to network constraints, access via the internet will be limited, allowing for only limited traffic until an alternative method is explored.
    - This will be thoroughly addressed in exception handling and will result in a queue for users and a time-out function for idle users.
- Access must be limited erring on the side of limitation in order to avoid any complex user interactions. The result of this will be a simplified user interface that will be assessed by at least 3 members of each user class regarding their particular interactions, only once the design and access have been cleared by the Director.
- The software must be accessed through a web browser until after the entire system is complete, then a mobile application will be further discussed.
- Password lengths and formatting will be a consideration determined by the Director.
- Any changes made to the system for maintenance, other than to address emergency or security concerns, must happen outside normal operational hours of 7:30 am to 8:00 pm EST.

Key	Summary	Description	Labels
SPA-2	The users shall only have access to view/ edit elements corresponding to their predefined classes.	For example, a Student shall not be able to change their grade, only an Educator that is specifically linked to that Student. A Student shall not have access to view the Staff Scheduling unless it is determined by the Director that it is necessary.	ACCESS, limitation
SPA-1	Do not store user information before the security of the system is considered fully-functional.	When the security aspect is considered fully functional, there will be a check in the system. It will be verified by a security specialist that will perform various rigorous tests to ensure it will securely hold user information. There will be a 2-factor authentication for each login from each device.	SEC, limitation

2 issues Refresh

1.4 Definitions

Schedules: The time block in which the student attends the school. There are many split schedules to allow flexibility for students and to maximize the usage of the available space in their facilities.

- (Daytime)Tues - Fri: 9 am - 2pm
- (Daytime)Tues - Fri: 9am - 5pm
- (Nighttime)Mon - Thurs: 3pm - 8pm
- (Hybrid)Mon - Weds: 3pm - 8pm, Thurs 9am - 2pm

2 References

Employees:

- Operations Director: Sandy Schmoker
- Lead Educator: Samantha Wackerley
- Support Staff: Alexandra Uhle

Website:

- https://www.tspaftmyers.com/

3 Specific Requirements

Key	Summary	Description	T	Linked Issues	Labels
SPA-41	Upon completion of each sprint, the project manager shall verify updated functionalities for the director's approval.	The director has the final say on what can or cannot be included in the software. The director must approve in writing each functionality in the following manner: Sprint 1 Functionality 1: Approved Functionality 2: Rejected - Notes Sprint 2 Functionality 2 (iteration 2): Approved Functionality 3: Approved			nonfunctional, process
SPA-40	Upon completion of each sprint, the system shall undergo a source code scan to ensure defensive coding techniques are being properly utilized.	A variety of tools can be used for different portions of each sprint. These scanners are used to ensure the proper defensive techniques are being used against possibilities for SQL Injections and other types of malicious interactions.			nonfunctional, process
SPA-39	The system shall log users out of their accounts upon submission of beginning of system maintenance.	The system will display a warning message to all users continuously 15 minutes prior to maintenance, and after that 15 minutes has passed, all users will be logged out of their accounts to ensure no data leakage or data-flow during database changes.			functional, product
SPA-38	In case of maintenance during working hours, the system shall redirect users to the modified home page, with a prompt of estimated time and a phone number.	This will allow users to call regarding any needs they may have so the appointments can be handled on the local database.			functional, product
SPA-37	Upon submission of permission change by the Director, the system shall log that user off of their profile before submitting changes to the database.	Logging a user off of their profile before submitting the changes will keep from any user permission dualities occurring from them navigating their profile after the change in permissions.			functional, product
SPA-36	The system shall provide the Director a view for granting a specified student additional client permissions for special appointments, upon completion of specialized training	This time frame is dependent on the director's action. A later version will send the director a request once the student updates their Graduation Tracker with the specialized training completion.			functional, product
SPA-35	Upon the scheduling of a client's first appointment, the system shall create a new user profile unique to that client.	The unique identifier for the customers will be a phone number and unique ClientID. This is the profile that will be updated with any new student/ educator comments.			functional, product
SPA-34	If a student is not checked out within one hour of their completed class time, the system shall log them out with a notification to administration via their web portal.	The message will be sent via email upon the automatic checkout to the corresponding educators and administration. This is to be later updated as an in-system user message, which will appear when they open their smart-phone application. [To be completed in mobile release]			functional, product
SPA-33	When the admissions department accepts a student into the program, the system shall create a profile for that student for storing graduation progress.	Basic information such as name, phone number, and email will be stored, as well as create a unique Student ID.			functional, product
SPA-32	The system shall send data to the cloud-based server first before storing it in the locally-based database.	Sending all data to the cloud-based server is to ensure the local network/ hardware is not the source of any bottle-necking in the service. This is due to limited network and database features on-site. This is the new alternative to a previously mentioned constraint. (SPA-23 TO DO)			nonfunctional, product

SPA-32	The system shall send data to the cloud-based server first before storing it in the locally-based database.	Sending all data to the cloud-based server is to ensure the local network/ hardware is not the source of any bottle-necking in the service. This is due to limited network and database features on-site. This is the new alternative to a previously mentioned constraint. (SPA-23 TO DO)			nonfunctional, product
SPA-31	When a user is viewing any tab, accessible information shall be 2 or fewer interactions from the current view.	This is to prevent any convoluted user interface with hard-to-find data. All data required by the user needs to be less than 3 "clicks" away from their current view on any specified tab.			functional, product
SPA-30	When a user logs in, the database shall respond with the user class before sending other user information.	It is important for the universal portal to determine user class before sending other related data to ensure they are being given only the information pertinent to their user class. Other user classes can view sensitive information.			nonfunctional, product
SPA-19	Upon submission of updated schedules, the system shall display the schedule in the calendar view to display 3 weeks prior and a year ahead.	When 3 weeks have passed, the information will be stored in a database and external excel file for record-keeping.			functional, product
SPA-18	When a new schedule is created, administrators shall have the ability to edit the calendar view beginning two days from the current date.	If a schedule needs to be changed within the two-day window, the Director will need to accept it, as well as any past dates, along with a non-removable log to show the edits. The administrators will have an entire calendar year from the current date to edit upcoming schedules.		SPA-17	functional, product
SPA-17	The Scheduling system shall display an Employee work schedule after it has been posted by administration.	This would be viewable by an employee or administrator at any time, through a web application, displaying up to two weeks prior to the current date.		SPA-18	functional, product
SPA-16	Upon completion of a student appointment, an educator shall have access to verify the appointment within a 30-minute window of the scheduled time.	The Director will have ultimate access to re-open and edit any past appointments as well as add notes. The educator and students will also be able to add notes BEFORE and 30 minutes following the verification of completion.		SPA-7 , SPA-12	functional, product
SPA-15	The Director shall have access to view the running total of products at any time to account for purchasing replacements when a threshold of on-hand is crossed.				functional, product
SPA-14	The Product Tracker system shall allow support staff to edit the running total of products available, used, and sold throughout the given workday.				functional, product
SPA-13	The system shall allow a student to view their overall graduation progress from their profile at any time, updated per appointment.	This will be accomplished through an "Individual Graduation Tracker" tab in the overall system that will appear for all students. This will only show the individual student's information in regards to progress to graduation such as how many of each type of appointment they have completed and what certifications/ exams they have passed.		SPA-9	functional, product
SPA-12	Upon successful completion of a client appointment, the system shall store the category of appointment under that student's profile as a categorical count for graduation tracking, within 5 minutes of verification.	When the scheduled appointment is finished with the student, an educator will verify the appointment is complete, and that is when the appointment will go from "in-progress" to "completed", and will be stored under the category of appointment, such as hair dye, hair cut, and can fulfill multiple appointment types.		SPA-16	nonfunctional, product
SPA-11	When a student checks in, the system shall store the name of the student along with the current time, in order of arrival.	When a student signs in using the finger-print scanner, the corresponding information (name, time and date, signed in/out) will be sent to the database, which is grabbed by the user (if they have access) when they load the viewable item.			functional, product

Key	Summary	Description	Labels
SPA-2	The users shall only have access to view/ edit elements corresponding to their predefined classes.	For example, a Student shall not be able to change their grade, only an Educator that is specifically linked to that Student. A Student shall not have access to view the Staff Scheduling unless it is determined by the Director that it is necessary.	ACCESS, limitation
SPA-1	Do not store user information before the security of the system is considered fully-functional.	When the security aspect is considered fully functional, there will be a check in the system. It will be verified by a security specialist that will perform various rigorous tests to ensure it will securely hold user information. There will be a 2-factor authentication for each login from each device.	SEC, limitation

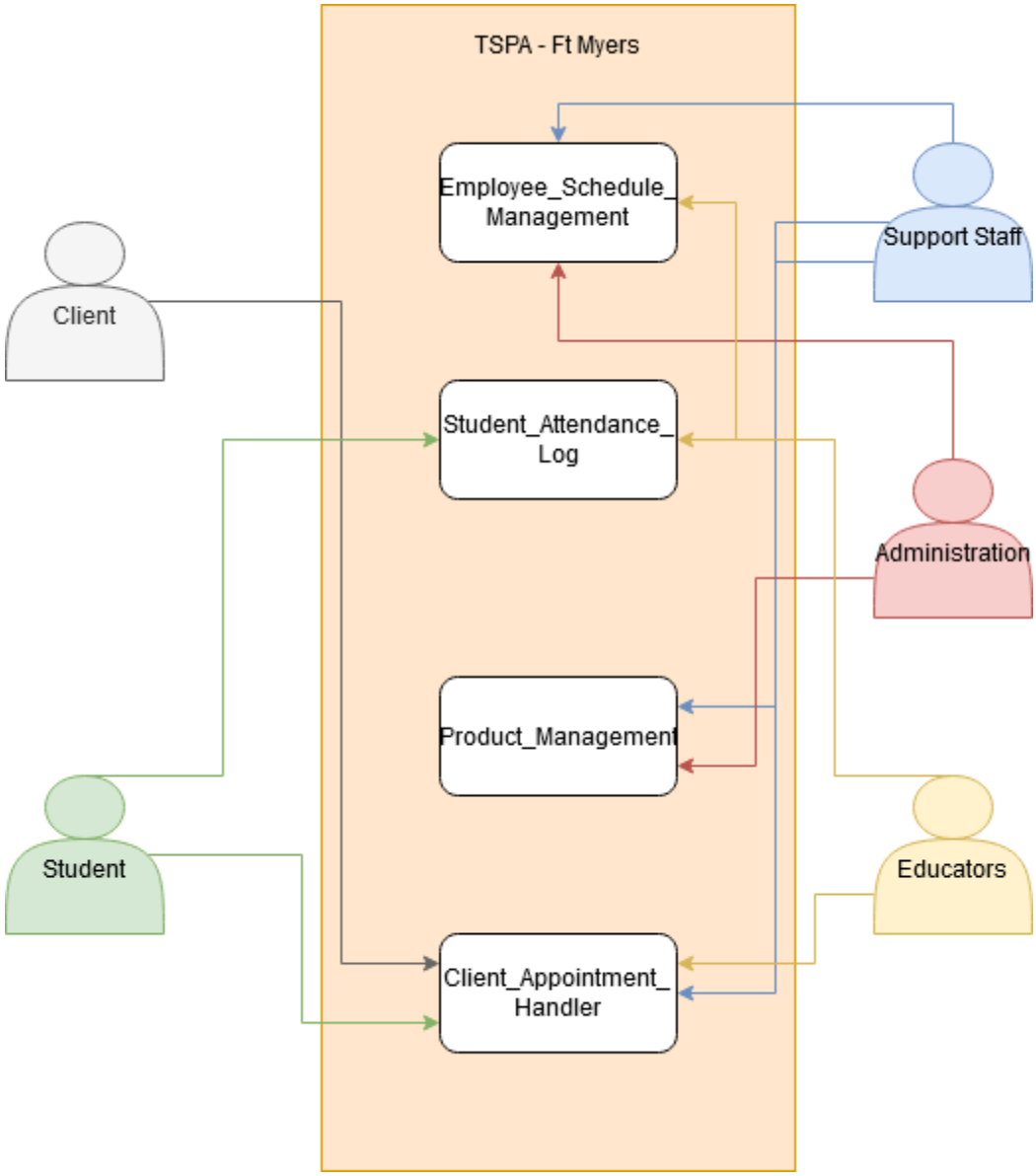
Use Cases:

ID:	**TSPA0001**
Title:	Employee_Schedule_Management
Description:	Web view for administration to manage employee scheduling.
Primary Actor:	Administrator
Preconditions:	Administration creates an excel document with dates and times to email to each of the employees.
Postconditions:	Administration has management access over a shared view with employees which they can create the schedule and the employees can view, without the need for emailing.
Main Success Scenario:	There will be a portal which administrators and employees can view a shared calendar. This calendar will show dates and times of each employee. The administrator will have access to a year in advance for scheduling and will input the schedule in with the excel sheet. This is where the system will process the excel sheet into the calendar for ease of use. The calendar view will have filters for each employee class to make it easier to view the schedules for specific types of employees.
Extensions:	If the administrator does not stick to a specified format for the excel sheet, it would throw off how the system displays the view in the calendar. Due to this, there will need to be manual editing in the calendar view for members with administrator access.
Frequency of Use:	Each schedule is posted for the month. It will be posted by the administrator in that frequency to be viewed throughout the month.
Status:	No Progress
Owner:	Christopher Frank
Priority:	VERY HIGH

ID:	TSPA0002
Title:	Student_Attendance_Log
Description:	Automatically track and save Student attendance
Primary Actor:	Student
Preconditions:	Students use a fingerprint scanner which logs the date and time for their entry, breaks and exits. These logs are manually taken and copied into an Excel sheet for data keeping. From there, the attendance will be viewed for each student to ensure they meet hours for graduation requirements.
Postconditions:	Students use finger-print scanner which logs the date and time for their entry, breaks and exits. These logs will be automatically collected into the system and profiled under each student. Tracking each log, as well as automatically compiling them into total_hours_per_week/semester.
Main Success Scenario:	When students use the fingerprint scanner it is to indicate they are signing in for the day, taking a break, or signing out for the day. When the students use it for the first time (for each day), the system will log the date and time of the entry, and until the next entry is logged, the time will be compiled for their total time. When they use it again to check out, the time and date will be logged, along with stopping that compilation of total time.
Extensions:	If a student leaves for the day and forgets to sign out, the system would continue to count and would actually mark them as checking out the next day when they sign in, with all of that time at night counted for them. To combat this, there will be an automatic time-out function which would sign them out, and alert administration that they didn't sign out within an hour of their scheduled class hours ending.
Frequency of Use:	The students sign in and out throughout the day, each day, weekday and weekend. This all depends on if the business is operational (business as usual).
Status:	No Progress
Owner:	Christopher Frank
Priority:	HIGHEST

ID:	**TSPA0003**
Title:	Client_Appointment_Handler
Description:	Allow students to view upcoming appointments and client profiles
Primary Actor:	Student
Preconditions:	When a client schedules an appointment, the support staff designate which students get which clients based off student graduation needs and current experience. The client will be told which student to go to for their appointment.
Postconditions:	When a client schedules an appointment, the support staff designate which students get which clients based off student graduation needs which will be viewable from the scheduling view. From then until after the appointment is complete, the student will be able to view the appointment along with any notes that may have made previously for that client's profile.
Main Success Scenario:	Clients create appointments with the support staff, who will enter it into the system, which is viewable by the student who is assigned the client. The students will be able to leave special comments on the Client's profile, which their names will be attached to for future reference.
Extensions:	Educators will also need to be able to track appointments and have administrative power to switch which student has which client. This will ensure the support staff will not have to be told when a different student is in need of a specific type of appointment.
Frequency of Use:	This will be used daily, throughout the day, for each appointment.
Status:	No Progress
Owner:	Christopher Frank
Priority:	MEDIUM

ID:	**TSPA0004**
Title:	Product_Management
Description:	Track amount/ type of product on-hand.
Primary Actor:	Support Staff
Preconditions:	To track how much product is on-hand and what has been sold or used by the students, the support staff will count each item and track it on a sheet of paper to be filled into an Excel sheet later.
Postconditions:	There will be a running track of product in the system which the staff will double-check. Each item includes an optional photo and a running total for on-hand, sold, or used.
Main Success Scenario:	When a client purchases product, the support staff will simply include the amount sold in the system, on the product view. At the end of the day, the support staff will count the items used as usual and also mark that in the system.
Extensions:	The data will be collected and stored for administrator analysis to see how much students are using and how much product is being sold. The log will also track which staff kept track for better accountability.
Frequency of Use:	Each time a client purchases an item and each day during use count.
Status:	No Progress
Owner:	Christopher Frank
Priority:	LOW


TSPA - Ft Myers
Employee_Schedule_ Management
Support Staff
Client
Student_Attendance_ Log
Administration
Product_Management
Student
Educators
Client_Appointment_ Handler

4 Verification

Key	Summary	Verification Approach
SPA-41	Upon completion of each sprint, the project manager shall verify updated functionalities for the director's approval.	Analysis
SPA-40	Upon completion of each sprint, the system shall undergo a source code scan to ensure defensive coding techniques are being properly utilized.	Analysis
SPA-39	The system shall log users out of their accounts upon submission of beginning of system maintenance.	Test
SPA-38	In case of maintenance during working hours, the system shall redirect users to the modified home page, with a prompt of estimated time and a phone number.	Demonstration
SPA-37	Upon submission of permission change by the Director, the system shall log that user off of their profile before submitting changes to the database.	Test
SPA-36	The system shall provide the Director a view for granting a specified student additional client permissions for special appointments, upon completion of specialized training	Test
SPA-35	Upon the scheduling of a client's first appointment, the system shall create a new user profile unique to that client.	Analysis
SPA-34	If a student is not checked out within one hour of their completed class time, the system shall log them out with a notification to administration via their web portal.	Demonstration
SPA-33	When the admissions department accepts a student into the program, the system shall create a profile for that student for storing graduation progress.	Analysis
SPA-32	The system shall send data to the cloud-based server first before storing it in the locally-based database.	Analysis
SPA-31	When a user is viewing any tab, accessible information shall be 2 or fewer interactions from the current view.	Inspection
SPA-30	When a user logs in, the database shall respond with the user class before sending other user information.	Analysis
SPA-19	Upon submission of updated schedules, the system shall display the schedule in the calendar view to display 3 weeks prior and a year ahead.	Demonstration
SPA-18	When a new schedule is created, administrators shall have the ability to edit the calendar view beginning two days from the current date.	Test
SPA-17	The Scheduling system shall display an Employee work schedule after it has been posted by administration.	Demonstration
SPA-16	Upon completion of a student appointment, an educator shall have access to verify the appointment within a 30-minute window of the scheduled time.	Test
SPA-15	The Director shall have access to view the running total of products at any time to account for purchasing replacements when a threshold of on-hand is crossed.	Demonstration
SPA-14	The Product Tracker system shall allow support staff to edit the running total of products available, used, and sold throughout the given workday.	Demonstration
SPA-13	The system shall allow a student to view their overall graduation progress from their profile at any time, updated per appointment.	Demonstration
SPA-12	Upon successful completion of a client appointment, the system shall store the category of appointment under that student's profile as a categorical count for graduation tracking, within 5 minutes of verification.	Analysis
SPA-11	When a student checks in, the system shall store the name of the student along with the current time, in order of arrival.	Analysis

5 Appendices

5.3 Assumptions and Dependencies

- Assuming the automatic logging of student attendance, there will be no more discrepancies that have been confirmed to happen during the transition from the logging system to the excel sheet where the data was stored for long-term record-keeping.
- The system will be accessible for each relevant user in a more convenient manner due to the nature of a unified system accessible through a web-based API.
- Since the information will be accessible and managed through a simple user interface, the logging and accessing of information will occur more in the background, allowing the flow of business to occur more smoothly than the previous systems.

5.4 Acronyms and Abbreviations

TSPA - The Salon Professional Academy