Software Requirements Specification
for
Ambassador.EXE

Version 1.0

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1. Introduction

1.1 Purpose

The software will allow the outreach specialist to easily keep track of and record Engineering Ambassador service hours as well as increasing scheduling efficiency pertaining to outreach events. The system will be able to display all events in a calendar format as well as creating new events and updating the calendar in the system. It will also show a list of all active Ambassadors and what events they have participated in throughout the current semester.

1.2 Scope

The primary objective of Ambassador.exe will be to make scheduling events and logging the hours of Engineering Ambassadors easier and more efficient. Currently, both tasks are in separate programs, records of service hours are kept in an Excel spreadsheet. The new system will provide an all-in-one access point for the outreach specialist to coordinate events with available Ambassadors as well as providing an efficient way to keep track of Ambassador participation.

- Goal 1: The system should be simple and easy to use, containing a module for events, which should contain an event maker, calendar, and roster of Ambassadors typically available on the date of the event,
- Goal 2: A module for Ambassadors should be included which should provide an up to date list of all Ambassadors volunteering in the current semester as well as the hours they have volunteered for the current semester and overall.
- Goal 3: The system should be completed and rolled out by April 1, 2020 to ensure all required information from the outreach specialist will be inputted and the system is operational by the following academic semester.
- Goal 4: The system's development and functionality should stay within the range of the volunteers' capabilities so that it does not become necessary to ask the University for funding. Service hours should be the only compensation required.
- Goal 5: Ambassador participation should increase by a margin of 20%. The current system allows Ambassadors to avoid meeting the current participation requirement of 10 hours because it is simply too hard to keep track off, the average being 8 hours. The new system should allow the outreach specialist to easily identify Ambassadors below the participation thresh-hold as the semester nears its end and encourage them to increase their participation. A 20% increase in participation will bring the Ambassadors closer to the current participation requirement.
- Goal 6: The system should allow the outreach specialist to create a new event and add it to the event calendar in under 15 seconds unless the outreach specialist decides to create a more in-depth event description.
- Goal 7: The system should allow the outreach specialist to find any active Ambassador's information in under 10 seconds by utilizing a search bar to locate said Ambassador's information.
- Goal 8: Logging Ambassador participation for an event should take less than one minute. The outreach specialist should be able to record participation for an event "in bulk," adding records of multiple Ambassadors at once if the event and participated hours are the same.

1.3 Product overview

1.3.1 Product perspective

Define the system's relationship to other related products: The system is not related to any other products. If the product is an element of a larger system, relate the requirements of that larger system to the functionality of your product: The system is not related to any other products.

If the product is an element of a larger system, identify the interfaces between your product and the larger system of which the product is an element: The system is not related to any other products.

Define all inputs into and outputs from the software system:

Interface 1 (Login):

> This interface is used to allow the user to log into the system. Input will be provided from the user in the username and password fields to define who is accessing the system.
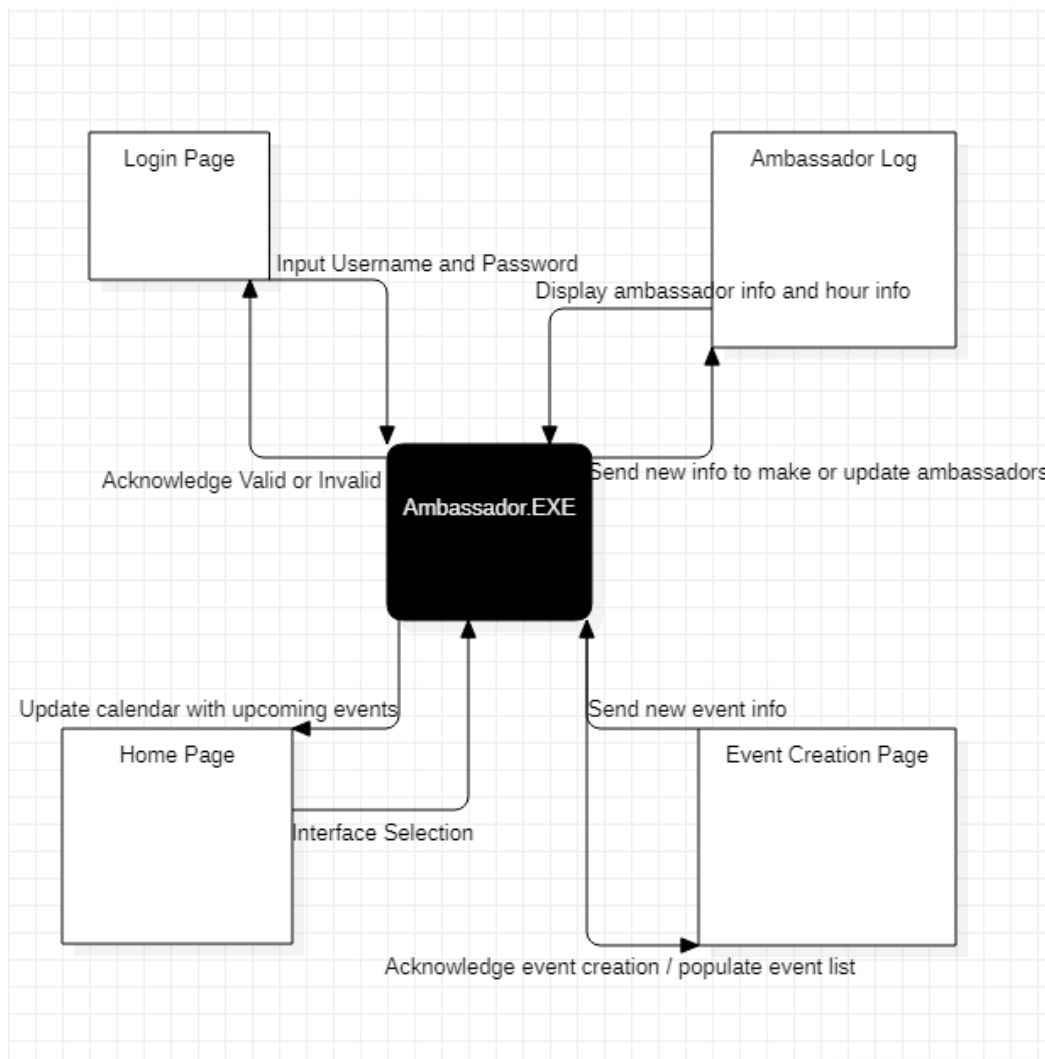
Interface 2 (Home Page):

> This interface receives input from the user to guide them through the system to the other interfaces. This page also outputs the names and dates of upcoming events to a calendar widget in the home page.

Interface 3 (Events Creation Page):

> This interface will receive input from the user in fields related to an event creation action including but not limited to Event Name, Location, Time Description, ect. This page will also output events from the database that are upcoming and will be displayed in the "Upcoming Events" text box.

Interface 4 (Ambassador Log):

> This interface will be used to manage the many Engineering Ambassadors. This interface will receive input from the user to create, view or update an ambassador in the system. If create is selected, the system will take input from the user including but not limited to Name, Birthday, Age, Year, Major, etc. If update is selected, the system will output the information for the above listed fields in labeled text fields and may accept input from the user to edit information. The view tab will show basic statistics about overall hours contributed in the semester, total hours per ambassador, total events, and possibly other functions. All outputs on the view page will be sent to labeled text boxes.

The diagram shows Ambassador.EXE (central process) connected to:
- Login Page: "Input Username and Password" (input), "Acknowledge Valid or Invalid" (output)
- Ambassador Log: "Display ambassador info and hour info" (output), "Send new info to make or update ambassadors" (input)
- Home Page: "Update calendar with upcoming events" (output), "Interface Selection" (input)
- Event Creation Page: "Send new event info" (input), "Acknowledge event creation / populate event list" (output)

1.3.2 Product functions

The Engineering Ambassador Log and Outreach Program has multiple functions to provide an all-in-one product that the Outreach Specialist may use to increase their efficiency.

Function 1:

The Engineering Ambassador Log and Outreach program shall provide a simple way for the Outreach Specialist to schedule new events as well as providing an easy way to spread the word about said events by automatically updating the FGCU website.

Function 2:

The program shall provide a calendar on the home page which will reflect any and all changes to events that have been added or removed.

Function 3:

The program shall provide a management system that will allow the Outreach Specialist to manage the Engineering Ambassadors by allowing adding or removal of any Ambassadors. This system will also allow the OS to see which Ambassadors have fulfilled their semester service hour requirements and which Ambassadors still need to contribute. The OS will also be able to see which Ambassadors participated events.

1.3.3 User characteristics

General Characteristics:

All users of the system are college graduates or students within the college of engineering. Any students using the product are active members of the Engineering Ambassador Program who will be instructed by the OS on how to operate the system. To cater to any users with disabilities or those with impairments, the system will have a voice over functionality to speak the text on the screen and voice control options. The system shall be designed in a way so that all text is easily readable (light text on dark background or vice versa).

- Users:
Users for this system, and therefore are stakeholders, include the Outreach Specialist, his or her Assistants, and any administrative users who may also require access to the system for its different functionalities. In any case, the system shall present the users with the opportunity for increased efficiency in time management and event coordination. The system shall be easy to use and self-explanatory with labeling and guided steps, but a brief training session will be provided upon installation by the student engineer to get the users started. Users may have a say in the decisions for requirements of a project through opportunities such as surveys or interviews, but the final say of a system's requirements fall to the customer or client.

- Customers:
The Outreach Specialist has commissioned the software to increase efficiency when it comes to scheduling events and time management for the Engineering Ambassador Program. As the person who commissions and pays for the software, the client has much control over the system and its requirements. Although the client may not even be a user of the system, their funding of the project gives them rights to control how the product develops.

- Regulators:
Because this system will be operating in the atmosphere of a public university, student privacy is of the utmost importance. The ITS department at FGCU will be regulators ensuring that only those necessary have access to the software and the information on students it will contain. ITS will be responsible for ensuring that all modules within the systems minimize the possibility for FERPA violations. Regulators are present to ensure any project follows public laws and statutes such as FERPA and may enforce regulations upon the developer to uphold these laws.

- Software engineers:
The software engineering student involved with the project must carefully craft each module of the system so that it maintains potential for re-usability in the future. Should the requirements of the client veer from what the student has in mind, he or she should take the client's needs first and create a backup of the code before any permanent changes are made. By doing this, the student will ensure that the client receives suitable software, and any potential for reuse later may be pursued with the backup code. The software engineer, as the developer, must choose the requirements with the

highest priority and must be willing to make difficult decisions as to which requirements to implement or disregard.

1.3.4 Limitations

EA-3 - The responsibilities of each individual Ambassador entails a minimum of 10 WCE service hours each semester for non-graduating students, and 20 hours for those who are graduating in the current year.

EA-5 - In the event of a hurricane or other natural disaster, the Engineering Ambassadors shall follow FGCU's standard operational procedures.

EA-6 - An internal database such as H2 cannot be used. The client wants a web-based database to connect different users on different devices to the same information.

EA-7 - The UI must be ADA compliant, meaning it must be easily used by those with disabilities. High contrast color choices for text requested.

EA-8 - Each user must login with an FGCU email.

EA-9 - Each user must have a secure password of at least 8 characters.

EA-10 - The system may only undergo maintenance on Saturdays or Sundays from 8pm - 8am.

EA-11 - The system must be able to hold a minimum of 100 Ambassadors.

EA-12 - A user must be able to log in remotely.

EA-13 - The system must be compatible with MacOS and Windows systems.

EA-14 - The system should be able to add events to the university's event calendar.

EA-15 - The system cannot be a memory or CPU intensive application

EA-16 - The system must be created as a JavaFX application or a web-based system.

1.4 Definitions

WCE- Whitaker College of Engineering
FGCU-Florida Gulf Coast University
EAP – Engineering Ambassadors Program
OS - Outreach Specialist
ITS - Information Technology Services
SOP - Standard Operating Procedures

2. References

https://www.fgcu.edu/about/

https://www.fgcu.edu/eng/about/

https://sites.google.com/site/profvanselow/swebok/software-requirements-ch-1/5-specification/srs

Julie Rose, Outreach Specialist at FGCU

3. Specific requirements

Key	Summary	Description	Type	Linked Issues	Priority	Labels
EA-68	The system shall be operational on office computers available to the outreach specialist.	The outreach specialist requires the software to be easily accessible to her.	Requirement	EA-46	High	Assumption
EA-67	The system shall be maintained by the FGCU IT department.	The outreach specialist requires a support structure for help and system maintenance.	Requirement	EA-10	Highest	Assumption
EA-64	The system shall permit a user to log into the system with valid credentials but deny unauthorized users without a valid username and password to comply with governmental FERPA privacy standards.	The outreach specialist requires a secure system to protect students' information.	Requirement	EA-66 , EA-25	Highest	Database Functional Security

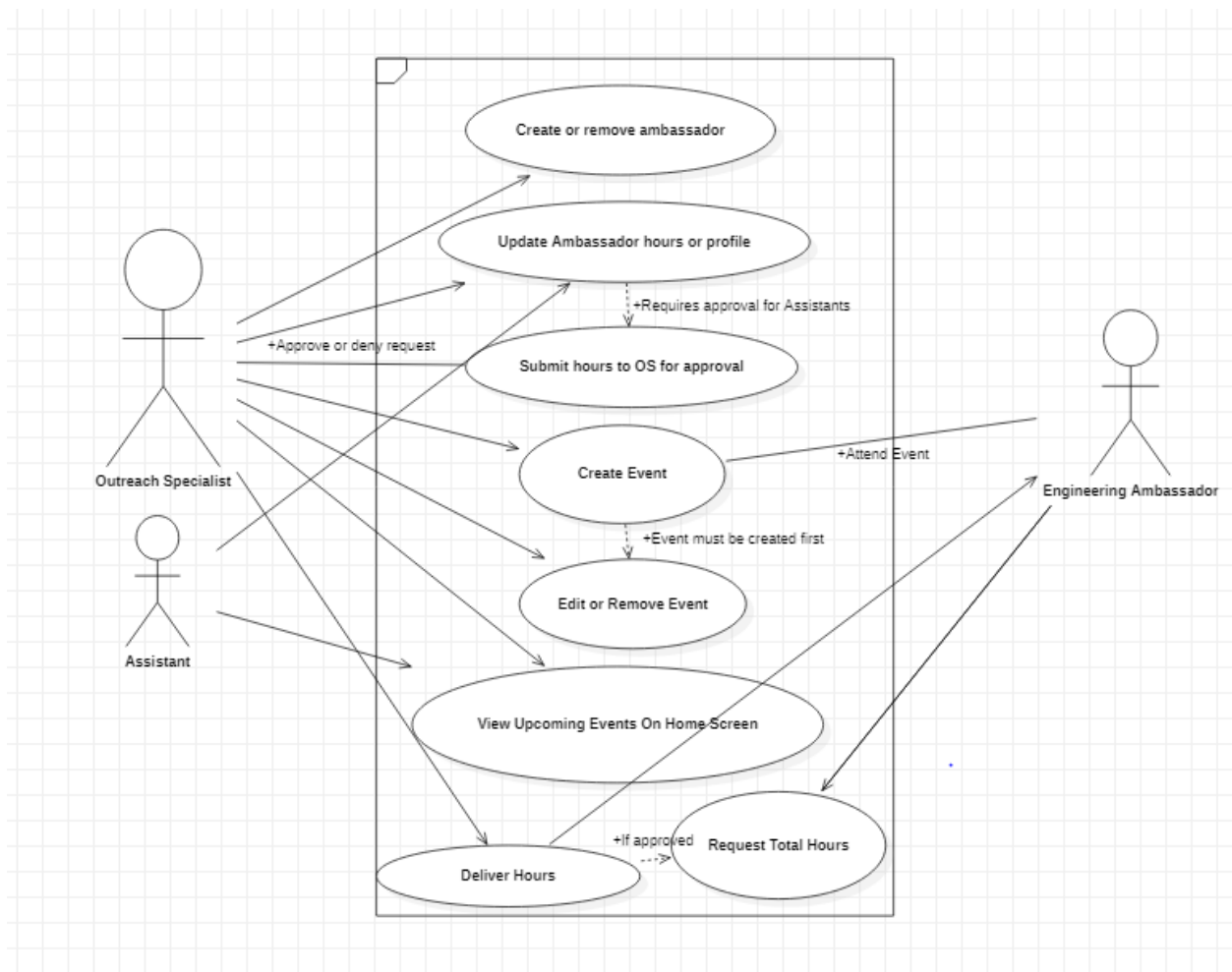| EA-63	The system shall be available Monday through Saturday with Sundays to be used for maintenance if necessary.	The outreach specialist would like the system to be available Monday through Saturday and use Sundays for maintenance because events do not typically take place on Sunday.	Requirement	EA-65	High	Nonfunctional Performance Usability
EA-62	Once an ambassador achieves their minimum required hours for the semester, the system shall mark their profile requirement as satisfied.	The outreach specialist and student workers would like an efficient time management system for ambassador hours.	Requirement	EA-23	Low	Database Functional Usability
EA-61	If an event is canceled or postponed, the system shall update the home calendar and event list.	The outreach specialist requires an up to date list of events.	Requirement	EA-26	Highest	Database Functional Usability
EA-60	Before an event begins, the system shall permit the outreach specialist to postpone or cancel the event.	The outreach specialist would like to be able to reschedule or edit event times.	Requirement	EA-24	Highest	Functionality Usability

EA-59	After an event has ended, the system shall update student hours according to contribution or stock amount set by the outreach specialist.	The student workers and outreach specialist would like to specify a general amount of hours to give to participating students at an event.	Requirement	EA-26	Medium	Database Functional Usability
EA-58	Once an event has begun, the system shall permit a student to sign in with their UIN.	Student workers want a feature that will allow students to sign into events themselves.	Requirement	EA-22	Medium	Database Functional Usability
EA-57	After an Ambassador signs up for an event, the system shall send a reminder the day before the event occurs.	The outreach specialist wants a feature to remind ambassadors of their commitments.	Requirement	EA-21	High	Functional
EA-56	After creating an event, the system shall display an updated list of upcoming events in both the events tab and the home calendar.	The outreach specialist requires an up to date list of events.	Requirement	EA-20	High	Database Functional Interface Usability
EA-55	After logging in, the system shall display upcoming events in a calendar format on the home screen.	The outreach specialist requires an easy way to view upcoming events on the home screen.	Requirement	EA-20	Low	Database Functional Interface

EA-50	The system shall generate semester reports for total service contributions	The outreach specialist requires semesterly reports regarding service contributions.	Requirement	EA-19	Highest	Database Functional

Use Cases and Use Case Diagram:

- Create or remove ambassador:
  - This function allows the Outreach Specialist (OS) to add an ambassador to the system or remove them.
  - Unique Identifier: UC1
  - Pre-Conditions: Logged into the system
  - Post-Conditions: Ambassador profile created.
- Update ambassador hours or profile:
  - The OS or their assistants update individual Engineering Ambassador (EA) hours.
  - Unique Identifier: UC2
  - Pre-Conditions: Ambassador must exist in system (UC1)
  - Post-Conditions: Hours updated. If submitted by Assistant, hours sent to OS for approval (UC3)
- Submit hours for approval:
  - An assistant submits hours to the OS to approve before being officially logged.
  - Unique Identifier: UC3
  - Pre-Conditions: Assistant submitted EA hours.
  - Post-Conditions: Hours approved and submitted or denied and discarded.
- Create Event:
  - The OS creates an outreach event with event details.
  - Unique Identifier: UC4
  - Pre-Conditions: OS logged in.
  - Post-Conditions: Event added to calendar by system.
- Edit or remove Event:
  - The OS edits or removes an event from the listings.
  - Unique Identifier: UC5
  - Pre-Conditions: At least one event must be in the system.
  - Post-Conditions: Event removed and all event lists including calendar are updated.
- View Upcoming Events:
  - Allows the OS or OS Assistant to view upcoming events.
  - Unique Identifier: UC6
  - Pre-Conditions: Must be logged in.
  - Post-Conditions: Events are displayed.
- Request Hours:
  - The EA requests their total current hours contributed so that they know what to submit on eRezLife.
  - Unique Identifier: UC7
  - Pre-Conditions: None
  - Post-Conditions: Hour total is sent by OS if approved. (UC8)
- Deliver Hours:
  - The OS delivers information containing the EA's hours to them.
  - Unique Identifier: UC8
  - Pre-Conditions: Hours must be requested (UC7)
  - Post-Conditions: None.

Use Case Diagram

- Create or remove ambassador
- Update Ambassador hours or profile
  - +Requires approval for Assistants
- +Approve or deny request
- Submit hours to OS for approval
- Create Event
  - +Attend Event
  - +Event must be created first
- Edit or Remove Event
- View Upcoming Events On Home Screen
- +If approved
- Request Total Hours
- Deliver Hours

Actors: Outreach Specialist, Assistant, Engineering Ambassador

4. Verification

Key	Summary	Verification Approach
EA-68	The system shall be operational on office computers available to the outreach specialist.	Demonstration
EA-67	The system shall be maintained by the FGCU IT department.	Inspection
EA-64	The system shall permit a user to log into the system with valid credentials but deny unauthorized users without a valid username and password to comply with governmental FERPA privacy standards.	Inspection
EA-63	The system shall be available Monday through Saturday with Sundays to be used for maintenance if necessary.	Analysis

EA-62	Once an ambassador achieves their minimum required hours for the semester, the system shall mark their profile requirement as satisfied.	Demonstration
EA-61	If an event is canceled or postponed, the system shall update the home calendar and event list.	Demonstration
EA-60	Before an event begins, the system shall permit the outreach specialist to postpone or cancel the event.	Inspection
EA-59	After an event has ended, the system shall update student hours according to contribution or stock amount set by the outreach specialist.	Demonstration
EA-58	Once an event has begun, the system shall permit a student to sign in with their UIN.	Test
EA-57	After an Ambassador signs up for an event, the system shall send a reminder the day before the event occurs.	Test
EA-56	After creating an event, the system shall display an updated list of upcoming events in both the events tab and the home calendar.	Demonstration
EA-55	After logging in, the system shall display upcoming events in a calendar format on the home screen.	Demonstration
EA-50	The system shall generate semester reports for total service contributions	Demonstration

5. Appendices

5.1 Assumptions and dependencies

- The users are not blind.
- The users all have hands and will be able to easily use a keyboard and mouse.
- The users all have a computer.
- The users can count.
- The users can read.
- The users are all above 18 years old.

5.2 Acronyms and abbreviations

- WCE (Whitaker College of Engineering) -1.3, 1.3.4
- FGCU (Florida Gulf Coast University) – 1.3.2, 1.3.3, 1.3.4, 1.4, 2, 3, 4
- EAP (Engineering Ambassadors Program) – 1.4
- ITS / IT (Information Technology Services) – 1.3.3, 1.4, 3, 4
- OS (Outreach Specialist) – 1.3.2, 1.3.3, 1.4, 3