FAAST Inventory System

Vision

Version 1.2

Revision History

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Vision

# Introduction

## Senior Project Team Singularity has been contracted by the Florida Alliance for Assistive Services and Technology’s (known as FAAST) Northeast Regional Demonstration Center, located at Hope Haven’s Lucy Gooding Center in Jacksonville, to develop an online inventory tracking system to replace and improve on their current system. The new inventory system will be called FAASTER and will be an online web application accessible to FAAST Administrators.

## Purpose

The purpose of this document is to collect, analyze, and define high-level needs and features of

the FAAST Inventory System. It focuses on the capabilities needed by the stakeholders and the target users, and why these needs exist. The details of how the FAAST Inventory System fulfills these needs are detailed in the use-case and supplementary specifications.

## Scope

This Vision Document applies to the FAAST Inventory System, which will be developed by Senior Project Singularity Team. This system will allow FAAST Administrators to be able to track Clients, Assistive Technology Information and Referrals, Adaptive Equipment and Toy Loans, Demonstrations/Tours/Presentations, Assistive Technology Evaluations and Training, and generate reports on this information.

## Definitions, Acronyms, and Abbreviations

* FAAST – FAAST, the Florida Alliance for Assistive Services and Technology program, is administered through the Florida Department of Education, Division of Vocational Rehabilitation and is federally funded by the Rehabilitation Services Administration (RSA) under the Assistive Technology Act of 1998, as amended in 2004 (P.L. 108-364).

Since its inception in 1998, FAAST has been and continues to be a resource to provide Floridians free access to information, referral services, educational programs, and publications in accessible format on extensive topics related to disability rights, laws/policies, assistive technology (AT) device loans as well as funding opportunities for AT.

* NERDC – FAAST’s Northeast Regional Demonstration Center, serving 18 counties and based in Jacksonville, Florida.
* AT – Assistive Technology is any item, piece of equipment, software, or product system that is used to increase, maintain, or improve the function of individuals with disabilities.
* Hope Haven - a Jacksonville non-profit that is the location of the FAAST Northeast Regional Demonstration Center. AT device demonstrations and loans take place at the Lucy Gooding Center.
* FAASTER – Florida Alliance for Assistive Services and Technology Electronic Records - The new inventory system that will be developed by Team Singularity for FAAST’s program Administrators.

## References

None.

## Overview

This document addresses the scope, positioning, stakeholders and user descriptions, product overview, and other requirements.

# Positioning

## Business Opportunity

Individuals with disabilities often need specialized AT devices or services to accomplish tasks non-disabled persons take for granted. Often these AT devices are very expensive and very hard to find locally which makes it very difficult to assess the effectiveness in determining whether they will meet the specialized needs of each individual person. Having an available library of AT devices locally from which a person can borrow and test out on a trial basis, helps them determine which device best meets their particular needs before having to make a large investment in such a device with no hands on knowledge of it. Knowing which devices are available at any given time in the library and when those that are loaned out are due back, makes it possible for FAAST Admins to efficiently run the system to meet the needs for as many clients as possible. More accurate inventory information means maintaining the optimal inventory levels for each device to prevent wasted funds on used devices and steer more funds toward high demand devices. In addition, the new inventory system will lessen the work load inefficiencies on FAAST Admins that is currently required to properly account for the number of loans. An aspect required in their reporting.

## Problem Statement

|  |  |
| --- | --- |
| The problem of | FAAST Admins not being able to work efficiently with the current system, get accurate information from the system as to AT devices available to be loaned, and where those that are loaned are due to be returned. Extra time and effort wasted to properly track loans in the system to meet reporting requirements. |
| Affects | FAAST Admins extra time spent on system leaving less available time to serve Floridians with disabilities. Unreliability of the current system creating potential instances of misinformation on what AT devices are available to FAAST Clients when in need. |
| the impact of which is | Difficulty in knowing with certainty what AT devices are available at any given time. Difficulty in planning for availability of AT devices and knowing when outstanding devices should be due. Difficulty for FAAST Admins to operate the system in general |
| a successful solution would be | A Simple Concise web application with a low learning curve that can easily be used by FAAST Admins to track clients, inventory items, loans, and make reports. |

## Product Position Statement

|  |  |
| --- | --- |
| For | People who administer the FAAST program to Floridians with disabilities |
| Who | Have difficulty working with the system that is currently in place |
| The FAASTER System | A software application |
| That | Provides the ability to better track clients, inventory, loans, and do reporting |
| Unlike | The current available system that is inefficient to work with and provides inaccurate information |
| Our product | Provide Admins with a way to more easily administer their program. This is accomplished through more efficient interface, accurate information regarding the status of the AT device library, and cut down on extra time spent by Admins to properly track loans to meet reporting requirements |

# Stakeholder and User Descriptions

## Market Demographics

FAAST’s target market population is any Florida residents who have a disability and want to borrow an assistive device to discover whether it will fit their needs. FAAST often receives their clients through referrals from state and county disability services agencies and therapists. Some clients also self-refer. As of 2013\*, non-institutionalized persons with disabilities of all ages were 13.4% of the population in the state of Florida. The median income of working-age persons with disabilities was $37,300, but the total poverty rate among all persons with disabilities in Florida was 28%. 78.5% of working-age people with disabilities had health insurance, with 60% receiving insurance through Medicaid/Medicare. Private health insurance or Medicaid/Medicare may or may not cover part of the expense of a device purchase. To qualify for government funding and fulfill its organizational mission, FAAST offers free device loans, available to all regardless of income or insurance.

The single product currently used by FAAST NERDC Administration to record their loans also allows for recording new client information, adding device inventory to the database of items available to loan, deaccessioning devices, and scheduling demonstrations of devices. NERDC Administration would like to have a site with more efficient technology, and also a new feature to make device loan reservations available to a wider audience via the internet, as those with disabilities often have little means of transportation. Clients for the Northeast Regional Demonstration Center come from Nassau, Duval, Flagler, St. John's, Clay, Putnam, Marion, Baker, Union, Bradford, Alachua, Hamilton, Columbia, Gilchrist, Levy, Suwannee, Lafayette, and Dixie counties. This new public-facing online feature may be beyond the scope of this project. However, the new site will have quicker data access and provide meaningful, accurate data reporting to track loan and client statistics, supporting the reporting requirements for state and federal funding.

\*2013 statistics provided by the Institute on Employment and Disability, Cornell University, Ithaca, New York

## Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| FAAST Tallahassee | The state parent organization to the local FAAST office | Must ensure the accuracy of inventory and client tracking to continue to receive government funding for services provided |
| FAAST North East Florida Regional Demonstration Center Administrator | One of two employees for FAAST’s northeast Florida regional office | Maintain the system  Will outline the system requirements for their office and for parent organization |
| Hope Haven Director | Director of organization which provides social services to families with a focus on children | Ensure the continued function of FAAST as an organization hosted by Hope Haven |
| Floridians with disabilities in northeast Florida | A Florida resident who has a need for AT | Need an accurate accounting of loans they have made through FAAST |

## 

## User Summary

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Description** | **Responsibilities** | **Stakeholder** |
| FAAST Administrator | The main user of the inventory, client tracking and loan system | * Creates inventory items * Alter existing inventory items * Creates new client * Inputs client information * Produces reports about loans * Creates new loans * Alters existing loans * Closes existing loans * Move existing inventory item to reuse category * Schedule demonstrations with clients * Accurately track other information for reports | Self |

## User Environment

This product will be used in an office in Jacksonville, Florida, located inside a room also used for device storage and demonstration.

Two employees will use this software. In the past, one employee would interview clients with a paper form, then enter the information into a remote database using their personal login role on an online system. The client now prefers to remove the paper form and use the online software directly during a client interview. The client uses the current tool on a ---- browser and plans do continue this use with the new software.

## Stakeholder Profiles

### FAAST Tallahassee

|  |  |
| --- | --- |
| **Representative** | Michael Daniels, The Director of FAAST |
| **Description** | Non-profit management |
| **Type** | Stakeholder is an executive |
| **Responsibilities** | Must ensure the accuracy of inventory and client tracking to continue to receive government funding for services provided |
| **Success Criteria** | A system that is easy to use with a more accurate database. |
| **Involvement** | As a distant party |
| **Deliverables** | None |
| **Comments / Issues** | None yet known. |

### FAAST North East Florida Regional Demonstration Center Administrator

|  |  |
| --- | --- |
| **Representative** | FAAST N.E. Regional Coordinator Edward Monagan |
| **Description** | Administrator Employee |
| **Type** | He is a business user. Computer science runs in his family, however. |
| **Responsibilities** | Maintain and use the system |
| **Success Criteria** | An accurate database and an easy-to-use interface |
| **Involvement** | Stakeholder is the main influence on the design requirements |
| **Deliverables** | Reports and scheduling, email to other employees |
| **Comments / Issues** | None yet known |

### Hope Haven Director

|  |  |
| --- | --- |
| **Representative** | Hope Haven CEO Joanne Robertson |
| **Description** | A non-profit executive |
| **Type** | She has a business interest in this project but will not be a direct user |
| **Responsibilities** | Ensure the continued function of FAAST as an organization hosted by Hope Haven, which provides essential community resources to the region |
| **Success Criteria** | FAAST will continue to operate but will have improved business function |
| **Involvement** | The stakeholder influences the scope of the project. |
| **Deliverables** | None yet known. |
| **Comments / Issues** | None yet known. |

### Floridians with disabilities in northeast Florida

|  |  |
| --- | --- |
| **Representative** | Floridians with vision, speech, hearing, learning, or other physical limitations |
| **Description** | Anyone and everyone |
| **Type** | The absolute range of experiences from novice to expert, with a variety of limitations in regard to their ability to use a website or travel to NERDC’s location. |
| **Responsibilities** | Ensure there is an accurate accounting of loans they have made through FAAST |
| **Success Criteria** | Loans are able to be made for the correct period of time (30 days) |
| **Involvement** | Currently the role of this user has been cut from having indirect influence on the project’s scope, rather than as direct users with influence |
| **Deliverables** | None yet known. |
| **Comments / Issues** | None yet known. |

## User Profiles

### FAAST Administrator – also see above 3.5.2

|  |  |
| --- | --- |
| **Representative** | FAAST N.E. Regional Coordinator Edward Monagan |
| **Description** | Administrator Employee |
| **Type** | He is a business user. Computer science runs in his family, however. |
| **Responsibilities** | The user inputs information about objects, people and schedules, and produces reports |
| **Success Criteria** | An accurate database and an easy-to-use interface |
| **Involvement** | Stakeholder is the main influence on the design requirements |
| **Deliverables** | Reports and scheduling, email to other employees |
| **Comments / Issues** | Note: Users who damage or don’t return items shouldn’t be loaned to. Loans must be made for the correct period of time. Loans should not have to be checked out and then checked back in for end-of-the-month accounting purposes. |

## Key Stakeholder or User Needs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Need** | **Priority** | **Concerns** | **Current Solution** | **Proposed Solutions** | |
| Removal of strange input constraints, like the “Do you want to save this information” checkbox on an information input form | 8 | If box is not checked, information is not saved. It’s a minor annoyance. | Double-checking the box is checked (or whatever the quirk calls for) | | Please don’t include strangeness. |
| The database must have an accurate accounting of loans without a double check of whether the loan has been made | 1 | Lost loans, or loans that just aren’t recalled properly, and appear to not exist, in the database | A manual check to see if the loan has been properly recorded when it was made | | None suggested by client, other than a request for accuracy. |
| Loans must account for themselves rather than needing to be checked back in then checked out for end-of-month reports | 2 | The current solution is time consuming | Loans are checked back in then checked out again. | | None suggested by client, other than the requested results |
| An image of a device with its description in the database | 4 | Devices cannot be identified by a text field in a database alone. Also, same-named devices may have different features | Physically checking the storage shelves | | None suggested, other than to add an image for each device |
| Better inventory management | 3 | The current solution is not centralized | Inventory is managed within loans? | | An inventory management dashboard |
| An email system to notify staff, to notify clients, when their loan period is coming to an end | 5 | Loan ending dates can be missed when an item is promised to the next customer. | A manual check | | Automated checking for when loans are due |
| A system to mass-email clients | 6 | Current system is time consuming | Manual adding of email addresses to an email in Outlook | | None suggested. |
| A system to scan items for check-in and checking out | 7 | Check in and out is time consuming | None? But everything has a bar code. | | QR codes |
| A way for clients to make device reservations and training scheduling on their own | 9 | Concern about client ability to travel | Faraway clients who want home demonstrations can call or email, but the FAAST admin must check the database and hunt around to see if a device is truly available. Or look on the shelves. | | A public-facing site for device reservations and training scheduling |

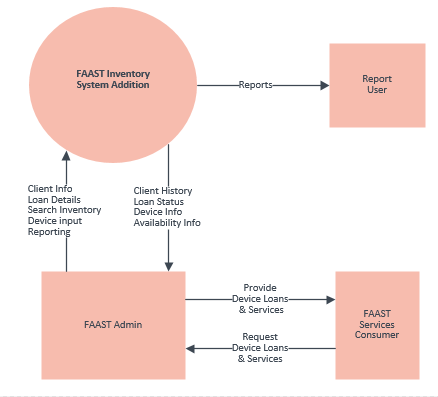
## Alternatives and Competition

As a non-profit organization funded by Florida state government, the US government, and public/private donations, the statewide FAAST program has limited ability to purchase web development services or packaged inventory software. No single online solution exists for the specific needs of this organization other than their current website. Pro-bono development services have been sought to replace the current product, however the current product does function and meets the basic needs of the organization.

# Product Overview

## Product Perspective

This product will leverage Microsoft Azure Cloud Services to host the application and its database in the cloud. The system will present a user interface via web browser on the client’s computer. The user will interact with the system via web browser, no other software need be maintained by the user. Graphically, the system may be viewed as follows:



## Summary of Capabilities

**Table 4-1 Hope Have FAAST Inventory System**

|  |  |
| --- | --- |
| **Customer Benefit** | **Supporting Features** |
| FAAST Admin can more quickly enter client information into system leaving more availability to work with customers. | Streamlined User Interface for entering clients, loans, and inventory with no unnecessary additional steps to save data. |
| Customer satisfaction is improved because Admin can provide accurate information on the availability of AT devices. | AT device inventory levels are accurately displayed to Admin when searching. Admins can identify when loans are due to be returned. |
| FAAST Admins can better track overdue AT device loans improving response time. | FAAST Admins are automatically notified when loans are overdue. |
| Easier to read reports that allow Admins to see which devices are in high demand to improve resource allocation. | Streamlined and inventory trend reporting. |
| FAAST Admins can extend loans in system with less effort. | Loan renewal feature to repopulate borrower details from prior loan. |

## Assumptions and Dependencies

1. The default language for the product shall be US English. It is assumed that users who are literate English will be using the system.
2. The system will require use of a computer with a graphical display, web browser and means to input textual and numeric data such as a standard QWERTY keyboard device. It is assumed the user with be using such a computing device and is able to operate it. Any specialized AT device required by the user such as an AT keyboard other input device will be provided by user.
3. It is assumed the user will have access to reliable high speed internet service.
4. It is assumed the user will have electricity to run the computer.

## Cost and Pricing

As a service learning project, there are no development costs to FAAST or Hope Haven. Web hosting of the application will be provided for during the development and launch of application. Subsequent web hosting fees will be the responsibility of FAAST. Specific amount will be based on Microsoft Azure hosting rates. Ongoing development work would require additional costs.

## Licensing and Installation

Product ownership shall remain with team Singularity and perpetual free license provided to FAAST and Hope Haven.

# Product Features

See User Stories

# Constraints

[Note any design constraints, external constraints or other dependencies.]

# Quality Ranges

[Define the quality ranges for performance, robustness, fault tolerance, usability, and similar characteristics that are not captured in the Feature Set.]

# Precedence and Priority

[Define the priority of the different system features.]

# Other Product Requirements

The system must run on a computer with a web browser.

## Applicable Standards

[List all standards with which the product must comply. These can include legal and regulatory (FDA, UCC) communications standards (TCP/IP, ISDN), platform compliance standards (Windows, UNIX, and so on), and quality and safety standards (UL, ISO, CMM).]

## System Requirements

The system will require use of a computer with a graphical display, web browser and means to input textual and numeric data such as a standard QWERTY keyboard device. As well the Microsoft Azure Application Hosting service is required.

## Performance Requirements

[Use this section to detail performance requirements. Performance issues can include such items as user load factors, bandwidth or communication capacity, throughput, accuracy, and reliability or response times under a variety of loading conditions.]

## Environmental Requirements

[Detail environmental requirements as needed. For hardware- based systems, environmental issues can include temperature, shock, humidity, radiation, and so forth. For software applications, environmental factors can include usage conditions, user environment, resource availability, maintenance issues, and error handling and recovery.]

# Documentation Requirements

[This section describes the documentation that must be developed to support successful application deployment.]

## User Manual

[Describe the purpose and contents of the User Manual. Discuss desired length, level of detail, need for index, glossary of terms, tutorial versus reference manual strategy, and so on. Formatting and printing constraints must also be identified.]

## Online Help

[Many applications provide an online help system to assist the user. The nature of these systems is unique to application development as they combine aspects of programming (hyperlinks, and so forth) with aspects of technical writing, such as organization and presentation. Many have found the development of an online help system is a project within a project that benefits from up-front scope management and planning activity.]

## Installation Guides, Configuration, and Read Me File

[A document that includes installation instructions and configuration guidelines is important to a full solution offering. Also, a Read Me file is typically included as a standard component. The Read Me file can include a "What's New With This Release” section, and a discussion of compatibility issues with earlier releases. Most users also appreciate documentation defining any known bugs and workarounds in the Read Me file.]

## Labeling and Packaging

[Today's state-of-the-art applications provide a consistent look and feel that begins with product packaging and manifests through installation menus, splash screens, help systems, GUI dialogs, and so on. This section defines the needs and types of labeling to be incorporated into the code. Examples include copyright and patent notices, corporate logos, standardized icons and other graphic elements, and so forth.]

# A Feature Attributes

[Features are given attributes that can be used to evaluate, track, prioritize, and manage the product items proposed for implementation. All requirement types and attributes need to be outlined in the Requirements Management Plan, however, you may wish to list and briefly describe the attributes for features that have been chosen. The following subsections represent a set of suggested feature attributes.]

## A.1 Status

[Set after negotiation and review by the project management team. Tracks progress during definition of the project baseline.]

|  |  |
| --- | --- |
| Proposed | [Used to describe features that are under discussion but have not yet been reviewed and accepted by the "official channel," such as a working group consisting of representatives from the project team, product management, and user or customer community.] |
| Approved | [Capabilities that are deemed useful and feasible, and have been approved for implementation by the official channel.] |
| Incorporated | [Features incorporated into the product baseline at a specific point in time.] |

## A.2 Benefit

[Set by Marketing, the product manager or the business analyst. All requirements are not created equal. Ranking requirements by their relative benefit to the end user opens a dialog with customers, analysts, and members of the development team. Used in managing scope and determining development priority.]

|  |  |
| --- | --- |
| Critical | [Essential features. Failure to implement means the system will not meet customer needs. All critical features must be implemented in the release or the schedule will slip.] |
| Important | [Features important to the effectiveness and efficiency of the system for most applications. The functionality cannot be easily provided in some other way. Lack of inclusion of an important feature may affect customer or user satisfaction, or even revenue, but release will not be delayed due to lack of any important feature.] |
| Useful | [Features that are useful in less typical applications will be used less frequently or for which reasonably efficient workarounds can be achieved. No significant revenue or customer satisfaction impact can be expected if such an item is not included in a release.] |

## A.3 Effort

[Set by the development team. Because some features require more time and resources than others, estimating the number of team or person-weeks, lines of code required or function points, for example, is the best way to gauge complexity and set expectations of what can and cannot be accomplished in a given time frame. Used in managing scope and determining development priority.]

## A.4 Risk

Please see Risk Document.

## A.5 Stability

[Set by the analyst and development team, this is based on the probability that features will change or the team’s understanding of the feature will change. Used to help establish development priorities and determine those items for which additional elicitation is the appropriate next action.]

## A.6 Target Release

[Records the intended product version in which the feature will first appear. This field can be used to allocate features from a **Vision** document into a particular baseline release. When combined with the status field, your team can propose, record, and discuss various features of the release without committing them to development. Only features whose Status is set to Incorporated and whose Target Release is defined will be implemented. When scope management occurs, the Target Release Version Number can be increased so the item will remain in the **Vision** document but will be scheduled for a later release.]

## A.7 Assigned To

[In many projects, features will be assigned to "feature teams" responsible for further elicitation, writing the software requirements, and implementation. This simple pull-down list will help everyone on the project team to understand responsibilities better.]

## A.8 Reason

[This text field is used to track the source of the requested feature. Requirements exist for specific reasons. This field records an explanation or a reference to an explanation. For example, the reference might be to a page and line number of a product requirement specification or to a minute marker on a video of an important customer review.]