#### Introduction

The thousands of students living and learning on RPI’s campus, not to mention the countless staff members upholding the community, are all prone to misplacing and losing personal belongings. To counteract this, RPI has countless lost and found services all throughout the campus. The problem arises when you do not know where to start looking for your lost item. RPI’s lost and founds are not centralized under one system and there is no way to see what is in each area online before making the trek over and checking yourself. The aim of the project is to centralize the lost and found system online to make it so people can report items they lost or items they found, alongside querying for items currently in the lost and found system.

#### Product Significance

Seeing as no individual is immune to misplacing their belongings, it is in the best interests of product developers and problem solvers alike to focus on reactive measures, rather than proactive ones; in other words, helping those who have lost personal items is arguably more attainable and achievable than attempting to prevent all loss of items campus-wide. As noted on the school’s Public Safety Office’s website, there are many lost and found receptacles and stations all around campus, yet the school lacks a centralized and easily accessible lost and found system (“Public Safety.”). It follows that, should this utility be adopted not only by the student body and staff but by the school itself, endorsement from the Public Safety Office would allow for further development of this product to better suit the needs of the community–for example, sending “no-reply” emails on behalf of the Public Safety Office to individuals who have reported similar belongings as missing. Due to the fact that no current centralized lost and found system exists, this web application would fill the void and simultaneously improve the quality of life for all students and staff across the RPI campus.

In order to produce this web application, there are a few criteria that must be met to have a desired prototype. For one, the prototype would have to communicate with a lost and found database, allowing users to submit both lost and found items. The use of an HTML form with certain required information such as the item’s approximate location, time and date of loss or discovery, and the item’s description itself would ensure that information is processed effectively. There would also be space for supplemental details, such as an image of the item or other personal notes to more easily identify who the item belongs to or what has been lost. Additionally, the finalized web application would employ a handful of individual HTML pages, most notably the landing page, the page to declare an item lost and browse all lost items, and the page to declare an item found; for simplicity’s sake, the terms “I found something” and “I lost something” would be used to title the two main webpages aside from the landing page. And, as an extension of this project, the potential endorsement of either the Public Safety Office or the school itself would allow for more effective communication of lost items. As an example, users who have lost an item would be able to provide their email address (potentially via RCS login) to receive emails from a legitimate RPI email address regarding similar items. However, due to the fact that this is a mere extension of this project, email notifications are not planned for the product prototype.

#### Preliminary Design

To accomplish this goal, the lost and found web application would focus primarily on serving data to the lost and found database (Area #5), with a secondary focus on JavaScript functionality and form validation (Area #2); however, HTML and CSS page design (Area #1) is crucial to the success of this project, in addition to properly pulling data from our live database (Area #4). The structure of the web application itself would be organized to direct users initially to the landing page.

On this page, users would be able to digest the goal of the product, to centralize lost and found information on RPI’s campus, as well as report an item as lost or declare one as found. From the landing page, the lost item report page would be created to allow users to both browse for all lost items and declare a personal item as lost, if need be. The lost items’ information shown to the user would contain the same information stored in the database, such as the time and date, location, and what the item is that has been reported as found by another person. Similarly, the page to declare an item as found would allow the submitter to enter the same required and supplemental information, which would then be stored in the database and presented on the lost items page. Physically, the landing page would stand in the root directory of the project, with the lost items page under an immediate “lost” directory and the found items page under a similarly immediate “found” directory. This straightforward page structure would allow both the user to easily navigate the page from the URI as well as organize the resources in the file system more effectively.

To distribute the developmental load among the members of our group, the three core aspects of the project would be designated as follows: HTML page design, headed by Yiqi Liang, JavaScript functionality implementation, headed by Matthew Voynovich, and backend management with the database and subsequent database mediator API, headed by Travis Heavener. Additionally, the potential oversight of RPI remains a possibility after the completion of this term project to allow for further development under the administration and utilization of school-associated tools, such as email notifications and a secure RCS login.

Works Cited

“Public Safety.” *Services | Public Safety*, Rensselaer Polytechnic Institute (RPI), publicsafety.rpi.edu/services. Accessed 1 Oct. 2023.