Business Case

Automation of RSO Binder

**Northeastern University**

**Boston, MA - 02115**

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# Executive Summary

The business case outlines how the web based application will improve efficiency, enhance guest experience and ensure safety of the students residing in northeastern residential buildings. The current process includes proctors manually entering the records of all the guests by checking their identification and looking them up on the banned list. This process is very time consuming and there are long queues during rush hours or special events. There is no database which contains the records of all the guests, but the information is scattered in multiple sheets of paper which leads to inconvenience when retrieving data later on. The proposed system will automate this process and provide for better database management, reduce overhead on proctors, ensure 100% safety by eliminating manual errors, and contribute to the university’s initiative of safe student environment and global warming by eliminating the usage of paper.

## Issue

Large number of guests usually enter the students’ residential dorms on a daily basis. Currently, all these entries are recorded manually on paper. There is a long queue during rush hours or when many guests arrive in the building as the proctor has to manually sign in everyone by check their identification and looking them up on the banned list. It is a time-consuming process and there are chances of manual error. Some people take advantage of this scenario and tail gate when the proctors are busy entering guest information. There is no centralized repository to store all the guest’s information. In order to efficiently maintain a record of all the residential dorms and enhance guest experience, Residential Safety Office must automate this process by implementing a web based platform as outlined in this business case. By doing so, the management will have a proper record of all the guests, it will eliminate manual error, the safety of all the students will be ensured.

RSO had a beta version in one of the residential halls which was a major failure.

* They used a laptop instead of paper to sign in the guests
* The application worked for only an hour
* The laptop has admin authentication and once locked, the supervisor had to be called in
* It was not user friendly
* The response time from the server was very poor

## Anticipated Outcomes

Moving to a centralized web-based platform will enable RSO to maintain the records of the guests in a seamless and organized manner. It will reduce the overhead on the proctors during the rush hours and eliminate any chances of manual error. Banned users will be automatically detected by the system and a log of this will be maintained for future reference. This application will also bring in additional features like generating monthly reports based on various metrics, tracking the traffic across various residential buildings and easy inspection if cases of security breach or similar are encountered.

## Recommendation

Various options and alternatives were analyzed to determine the best way to leverage technology to ensure safety while reducing manual process. The approach described herein allows us to meet the residential objectives of providing safety to all residing students. The recommended application will automate the existing process and eliminate manual entries in phases while all the student supervisors, residential assistants, proctors and Northeastern police are trained on the new system and processes.

* Use web services for automated digital recording of the data gathered by scanning IDs
* A pop message will appear in green for authorized people and in red for unauthorized access (banned list)
* Automatic alarm will be triggered to the NUPD when a person from banned list tries to enter

## Justification

The automation of RSO binders will result in greater efficiency in terms of storage and maintenance of records. The project is aligned with the university’s objective of providing a safe environment for the students and is using technology to incorporate this. The web based system will provide for the following:

* Significant decrease in the wait time of students and guests
* Reduce the overhead on the proctors during rush hours or special events
* 100% elimination of manual error
* Centralized repository for students and guest’s records for every residential building
* 100% elimination of tailgating

# Business Case Analysis Team

The following individuals comprise the business case analysis team. They are responsible for the analysis and creation of the Automation of RSO Binder.

|  |  |  |
| --- | --- | --- |
| **Role** | **Description** | **Name/Title** |
| RSO Supervisors/Proctors | Improves guests and student’s satisfaction. | Time saving of the student’s, guests, eliminate manual error |
| Executive Sponsor | Provide executive support for the project. | RSO |
| NUPD | Provides all the security support and details. Will be more efficient for any case investigation. | Northeastern University Police Department. |
| Software Support | Provides all software support for the project | *Developers* |

# Problem Definition

## Problem Statement

Currently, RSO Proctors are recording guest’s entries manually on a paper binder. And these residential dorms usually have large number of guests on a daily basis. There is a long queue during rush hours and RSO Proctors have to manually sign in everyone by checking their valid ID card and simultaneously cross checking the entries in the banned lists, provided by RSO. This increases the probability of tail gating and blow-by scenarios. Some of the key problem statements are:

* Manual validation and entry of each guest’s respective ID’s into the signing sheet.
* Manual entry of guests sometimes results in “Blow by” scenarios as proctors are busy entering the information of the guests.
* Manual validation of guests from the banned list can be fallible.
* Time delay for entrance during rush hours (esp. in Move-in/Move-out period)
* Poor database management, as the guest’s details are entered manually on paper and it is difficult to fetch the data later on.
* Non-eco-friendly, as the files are dumped after couple of months/years.

## Organizational Impact

The Automated Binder will impact the current manual binder and entries in many ways. The benefits will impact organization, processes, and resources in the following way:

* The manual entry labor will be taken over by the system which is automated for signing in guests, which will be more efficient and less time consuming.
* Northeastern University Police Department can investigate the case more efficiently.
* This project is eco-friendly, which will help and support the awareness of eco-friendly projects in Northeastern University.
* The guests’ entries will be persisted and stored in a database, that can be utilized for further business intelligence and analytics to improve the efficacy.

## Technology Migration

The business case is to back the idea of the initiative to develop an application to support the effective utilization of the existing manual system for the Northeastern University RSO Binders. As that is just the prototype and it is going to be developed from the scratch, there is no phase by phase technology migration required in the current plan.

# Project Overview

The Automation of RSO Binder project will enhance the guest experience and ensure resident safety. This section consists of project goals and objectives, project constraints and assumption, and major milestones. Once the project is approved and moves forward, each of the components will be expanded to include a greater level of detail in working towards the project plan.

## Project Description

The automation of the binder will replace the existing sign in sheets that are being used for guest entry thereby eliminating manual errors. The system will have a scanner that is connected to a centralized database and it keep track of all the entries made in the resident halls. The new system will also verify a guest's photo ID with the banned list and alert the proctors from allowing access to students and their guests.

Once approved, the application will replace the old system in a phased implementation approach and will be implemented once the new system is fully operational. The application will improve the efficiency of guest entry and assist the RSO administrative team in managing the reports.

## Goals and Objectives

The project directly supports all the goals and objectives of RSO department. The following table lists the goals and describes the way it will be supported:

| **Business Goal/Objective** | **Description** |
| --- | --- |
| Ensure Residents safety | The new application will prevent people in the banned list from entering the resident hall and reduces manual errors. |
| Reduce guest wait time | The guests need not wait for a long time during rush hours to enter the resident halls |
| Improve staff efficiency | The application has a quick response time that improves the efficiency of the staffs by reducing the time taken for sign in |
| Proper management of database | All the guest and resident records are stored in a database and can be retrieved easily whenever needed |

## Project Performance

The following table lists the key resources, processes, or services and their anticipated business outcomes in measuring the performance of the project. These performance measures will be quantified and further defined in the detailed project plan.

| **Key Resource/Process/Service** | **Performance Measure** |
| --- | --- |
| Record student and guest details | The system will ensure proper login during each shift for a proctor and will record the details of incoming students and their respective guests every time they sign into the resident hall |
| Banned list alert | The new system will alert the proctors if any student/guest in the banned list tries to gain entry inside a resident hall |
| Emergency Issues | In case of any emergency, the NUPD will have the authority to access the database of student/guest entries so that they can track their entries and take appropriate actions |
| Avoid Blow by Scenarios | Elimination of Blow by situations are 100% guaranteed with the new system |

## Project Assumptions

The following assumptions apply to the RSO Binder Automation Project. As project planning begins and more assumptions are identified, they will be added accordingly.

* All staff and employees will be trained accordingly to use the new system for an efficient data entry
* All the resident halls/stations will be equipped with the new application
* Funding is available for purchasing hardware/software for the new system
* Northeastern University administrators and NUPD will provide necessary support for successful project completion
* Project data will be backed up either in server or cloud
* The new system will undergo scheduled maintenance and gets updated then and there

## Project Constraints

The following constraints apply to the Automation of RSO Binder Project. As project planning begins and more constraints are identified, they will be added accordingly.

* All the identification cards provided by the guests should have a barcode in order to scan and populate their details efficiently into the database
* The proctors should be prepared to enter the student/guest details in a paper manually in case the new system shut downs suddenly
* Since the implementation will be done internally and not by the product developers or vendors, there will be limited support from the hardware/software providers.

## Major Project Milestones

The following are the major project milestones identified at this time. As the project planning moves forward and the schedule is developed, the milestones and their target completion dates will be modified, adjusted, and finalized as necessary to establish the baseline schedule.

| **Milestones/Deliverables** | **Target Date** |
| --- | --- |
| Project Plan Review and Completion | 03/01/2017 |
| Project Kickoff | 03/10/2017 |
| Phase I complete - Arrange meetings with Architect, RSO Supervisors, NUPD | 03/15/2017 |
| Phase II Complete - Build Project Application | 04/15/2017 |
| Phase III Complete - Test the application in one of the resident halls | 05/30/2017 |
| Phase IV Complete - Train proctors after the tested application is successful | 06/25/2017 |
| Phase V Complete – Deploy the new system in all the residence halls | 07/30/2017 |
| Closeout/Project Completion | 08/10/2017 |

# Strategic Alignment

This Project is in direct support of all of Residential Safety Office’s Goals and objectives. By directly supporting these objectives, this project will improve the safety of students and enhance the guest experience allowing RSO to provide better safety of all the students residing in the university.

| **Plan** | **Goals/Objectives** | **Relationship to Project** |
| --- | --- | --- |
| RSO Strategic Plan for Residents of Northeastern University | To improve and enhance safety of students residing in the university | This project will reduce the overhead on the proctors during the rush hours, eliminating any chances of manual error. Banned users will be automatically detected by the system and a log of this will be maintained for future reference. |
| RSO Strategic Plan for Residents of Northeastern University | Utilize new technology to provide safety more effectively | New technology will provide all the security support and details. Will be more efficient for any case investigation. It will reduce number of “Blow-by” scenarios even during rush hours |
| RSO Strategic Plan for Residents of Northeastern University | Improve record keeping and database management | This project will maintain the records of the guests in a seamless and organized manner. Database will be managed properly and data can be retrieved within seconds even if we drill down to any specific date. |

# Cost Benefit Analysis

The following table captures the cost and savings actions associated with the WP Project, descriptions of these actions, and the costs or savings associated with them through the first year. At the bottom of the chart is the net savings for the first year of the project.

| **Action** | **Action Type** | **Description** | **First year costs (- indicates anticipated savings)** |
| --- | --- | --- | --- |
| Purchase Web-based product software, licenses and scanners. | Cost | Initial investment for the Project | $18,000.00 |
| Software installation and training | Cost | Cost for IT group to install new software and for the training group to train all employees | $6000.00 |
| Upgrades and maintenance cost | Cost | Cost for maintaining and upgradation of the software and hardware yearly. | 3000.00 |
| No longer use of papers | Savings | No use of paper results in approximately $2000 savings per year. | -$2000.00 |
| Format of Sign in sheets will no longer be printed | Savings | Printing cost will be saved. | -$1000.00 |
|  |  |  |  |

Based on the cost benefit analysis above we see that by authorizing the Project, and initially investing a small amount in the project, better security and safety can be provided to the students which is the main objective of RSO.

# Alternatives Analysis

The following alternative options have been considered to address the business problem. These alternatives were not selected for a number of reasons which are also explained below.

| **No Project (Status Quo)** | **Reasons for Not Selecting Alternative** |
| --- | --- |
| Stay with the current system | * Continued occurrence of a high number of blow by scenarios * No centralized data and proper database management * Huge queues during rush hours * No proper maintenance of binders and records * Prone to manual errors * Non-eco-friendly. |

# Approvals

The signatures of the people below indicate an understanding in the purpose and content of this document by those signing it. By signing this document, you indicate that you approve of the proposed project outlined in this business case and that the next steps may be taken to create a formal project in accordance with the details outlined herein.

|  |  |  |  |
| --- | --- | --- | --- |
| **Approver Name** | **Title** | **Signature** | **Date** |
| Gail Raynus | CEO |  |  |