

UW Global Travel: Emergency Management Improvements

Zach Burges
Nathan Chen
Michael Fnu
Ishann Khurana
Bryan Lee



UW Global Travel's Mission Statement:

"We help facilitate safe and successful international travel for UW faculty, staff, and students."

Background

UW Global Travel is a program operated by the UW Office of Global Affairs (OGA) to support students and employees traveling on behalf of the university. The Office of Global Affairs is "university's hub for global engagement," representing and supporting UW programs, facilities, students, and employees outside of the country.

In the event of an emergency, the Global Travel Security Manager (GTSM) is responsible for accounting for travelers, ensuring their safety, and coordinating assistance if required by travelers. The GTSM is also responsible for keeping UW Leadership and News Media informed if an international emergency affects UW travelers.

2016 Fast Facts

- ~2300 students study abroad annually
- ~1000 registered faculty/staff trips in 2016
- Average annual spend abroad: \$250,000,000
- 55 countries of study

Opportunities

Multiple problems were identified that impeded the emergency response process and were not an effective use of the GTSM's time and effort. Not all problems could be addressed in this project due to connections to other UW Departments and technical scope and time.

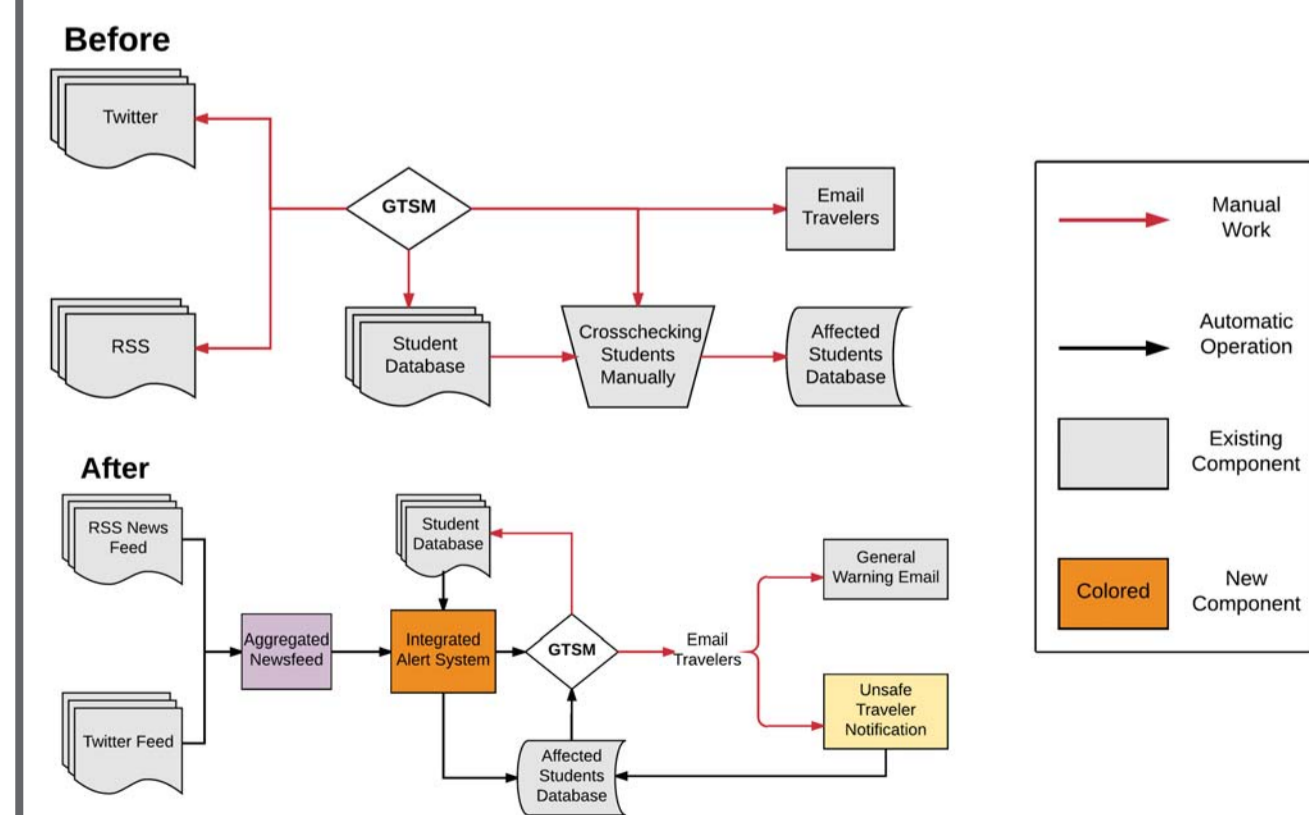
Opportunities that were addressed:

- Manual time spent looking and reading through news headlines
- Manual time spent matching students and their locations with news headlines
- Cluttered traveler status pertaining to emergency management

Future opportunities for UW Travel:

- Student information is contained in multiple databases
- Lack of traveler registration and response to UW Travel Emails
- Expanded use of social media applications for response and notifications

Functional Diagram of Emergency Response



Special Thanks to Christina Mastrangelo, Professor, Industrial and Systems Engineering and Nicholas Hill, Global Travel Security Manager, UW Office of Global Affairs

Aggregated Newsfeed

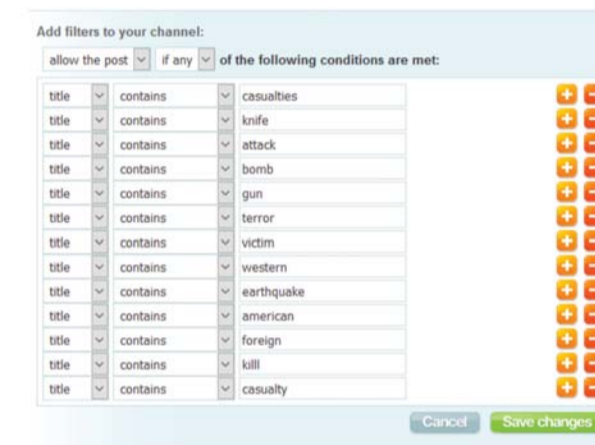
The GTSM is responsible for scanning multiple news sites, such as RSS feeds and trusted Twitter sources. This involves a lot of manual work and non-value added time spent reading irrelevant news.

Compared to the existing news aggregation process where the GTSM receives all breaking news alerts from multiple sources, the aggregated newsfeed provides:

- News Filtered for Relevancy:** Our keyword filtering acquires news that fit into criteria set by the GTSM. This way, the GTSM is made aware of the news he or she needs to know about, and nothing more.
- News Filtered for Trust:** Our newsfeed contains all the sites and sources the GTSM trusts, all in one location
- Real-time Updating:** The newsfeed continuously updates at regular intervals. Used in conjunction with the integrated alert system, the latest and most relevant news will be sent directly to the GTSM's inbox

Sample of News Headlines Selected Automatically

Title
British holiday rep injured in Portugal acid attack
Trump to Arm Syrian Kurds, Even as Turkey Strongly Objects
German Soldiers Allegedly Planned Attacks to Be Blamed on Migrant
Despite Arrests, Americans Continue to Visit North Korea
Yemen war: Surge in cholera outbreak kills 34 - WHO
Westminster operation: Man charged with preparing terrorist acts
Speedboat victims were suspected puppy smugglers
Putin critic Navalny has eye surgery in Spain after attack
Dingle toddler dog attack: Owner pleads guilty to charges
11 Children Are Killed in Bus Crash in China
Berlin migrants on trial for fire attack on homeless man
Feature: How Homeownership Became the Engine of American Inequality
Why were 101 Uzbeks killed in the Netherlands in 1942?
An Everyman Museum to Celebrate American Writers



Unsafe Traveler Notification

After an emergency occurs, the on-call GTSM is responsible for alerting travelers likely in the affected area and asking them to respond if they are safe or not.

- Using Google Forms, this component is deployed after an emergency occurs and a link to respond is sent to travelers in an email.
- Travelers are asked for their name, contact information, if they are safe or not, and what assistance they require.
- If a traveler answers that they are not safe, an email notification is immediately sent to the GTSM.

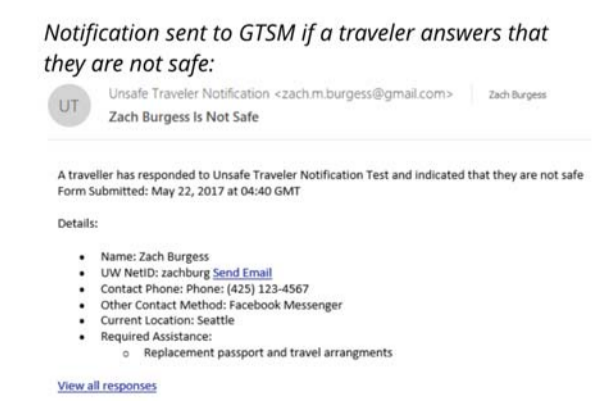
This replaces the previous check-in process, where travelers replied to the email sent by the GTSM.

Compared to the previous check-in process, this new check-in process provides:

- Automatic Data Collection:** Responses for each emergency are tracked on their own spreadsheet and does not require reading and processing each traveler's response, even if they are safe.
- Simple Usage:** Travelers answer a few short questions instead of having to compose an email response, which will likely improve response rate.
- Data presented instead of being retrieved:** As responses are collected from travelers, Google Forms can summarize responses, reducing effort required to present information on UW Travelers to University Leadership and the media.

Form sent to travelers in an emergency:

Notification sent to GTSM if a traveler answers that they are not safe:

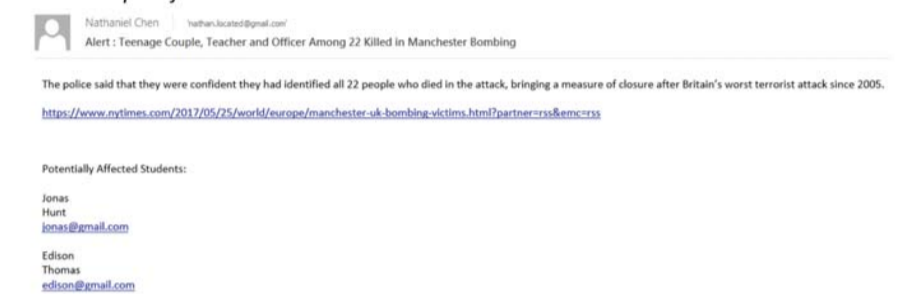


Integrated Alert System

Currently, the GTSM manually browses through news sites to find out about emergencies. Once an emergency is identified, the GTSM must sift through several databases to determine which travelers could be affected based on geographic location.

The integrated alert system offers several new benefits, including:

- Student Location and News Matching:** News articles are automatically matched to student location.
- Automatic Email News Alerts:** Events are scanned in the aggregated newsfeed at regular interval, and emails with student information are sent automatically.
- One Workbook for All Needs:** Both the newsfeed and student information are contained in a single workbook and customizable. There is no need to interact with other databases or newsfeeds.



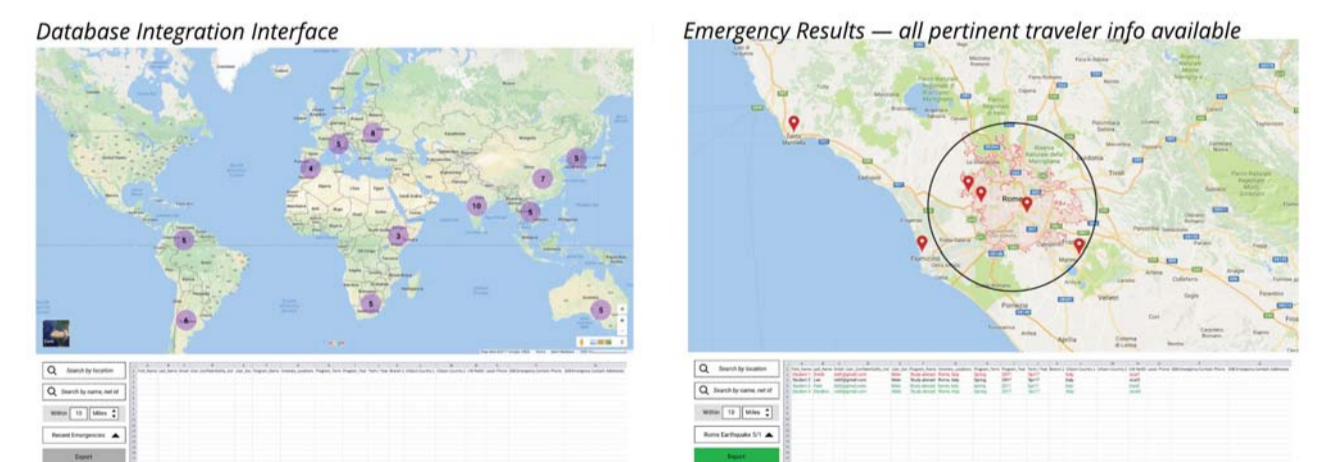
An example of an alert email sent to the GTSM.

Excel VBA was utilized to automate workbook processes such as updating news and filtering by publication time. VBA scripts and Excel formulas allow the system to send emails based on the latest news with all the information the security manager needs

```
Sub Email Nick()
    Dim OutApp As Object
    Dim OutMail As Object
    Dim cell As Range
    Dim cell As Range
    Application.ScreenUpdating = False
    Set OutApp = CreateObject("Outlook.Application")
    On Error GoTo cleanup
    Dim first As Boolean
    first = True
    For Each cell In Columns("F").Cells.SpecialCells(xlCellTypeConstants)
        If Not first Then
            Dim LString As String
            Dim DateString As String
            Dim TimeString As String
            LString = Cells(cell.Row, "K").Text
            DateString = Mid(LString, 5, 12)
            TimeString = Mid(LString, 15, 9)
            If cell.Value Like "?*?*?.?*" And
                DateValue(DateString) + TimeValue(TimeString) - TimeValue("07:00:00") + _
                    TimeValue(REFRESH) >= Now Then
                Dim firstArray As Variant
```

Future Improvements

A future recommendation is that a traveler information system is chosen or designed that would allow accessing information of all UW Travelers from a single window. Making all relevant information available from a single location would improve the GTSM's ability to respond to an emergency, reducing time to source information. Mockups were prepared after observing the current emergency response process and with feedback from the GTSM and may be presented to vendors or consultants if a new information system is going to be selected.



Results

- The aggregated newsfeed collects news headlines that likely indicate an emergency has occurred and presents the headlines in a single location for the GTSM, reducing the amount effort required to track the news.
- The Unsafe Traveler Notification component makes it easier for travelers to respond if they are safe or need assistance and sends an immediate notification to the GTSM if a traveler is not safe and automatically collects traveler responses
- The integrated alert system removes the need to manually investigate emergencies and connect them to students. All the necessary information is sent directly to the security manager's email inbox within minutes of events occurring.