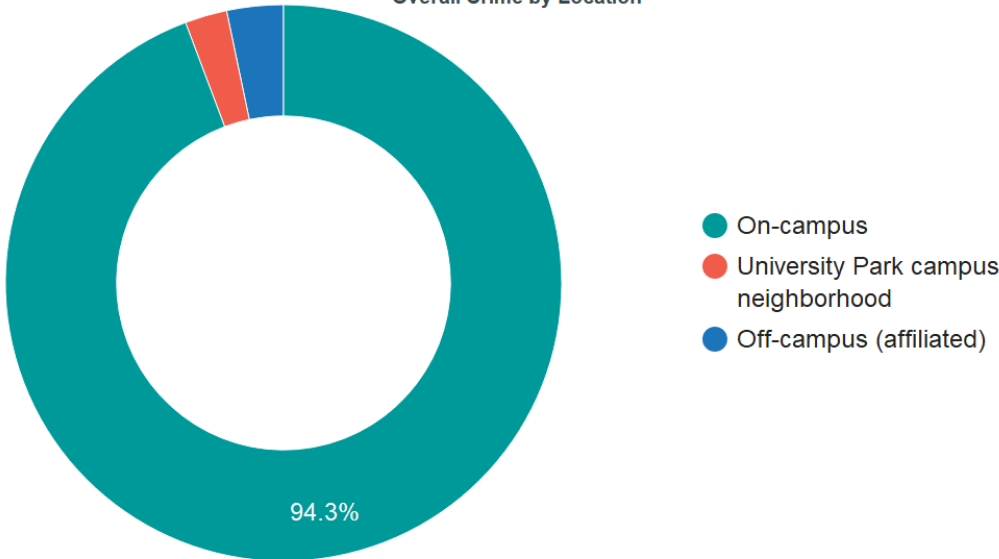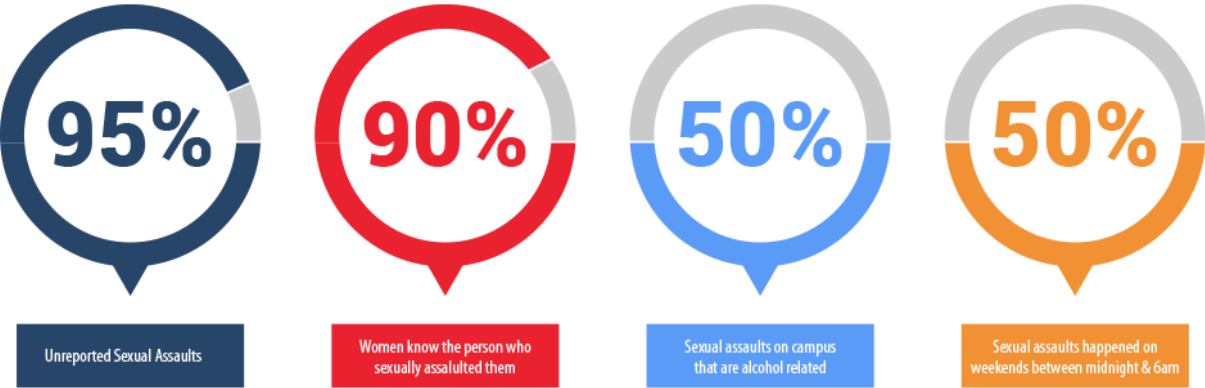# Problem Solving (A3) Report

Topic: Safety in college campus

Date: 08/19/2020
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1. Identify a Problem	PLAN

When we are walking alone at night in the campus, we get scared. If we are being followed by somebody we do not know, we get anxious. We think "maybe it's a student, but what if it isn't?" and we start panicking. We then pick the phone and call our first relative or friend, which are more likely to not be close to us at that moment. This turns of even happens every single day, multiple times. When we see statistics, most of the students are being assaulted, raped or carjacked within their college perimeter. These percentage are presented in the following figure.

Overall Crime by Location

- On-campus
- University Park campus neighborhood
- Off-campus (affiliated)

94.3%

We then realize how much this problem affects the college experience for students. It can create depression, anxiety attacks, post traumatic syndrome and many more problems to the mental health of the student. Then we realized that female have it the worst. They are more susceptible to these attacks because of society perpetuating that concept that the female gender is weaker. This creates a bigger tension in female student. Studies shows the following about the female victims

95% Unreported Sexual Assaults

90% Women know the person who sexually assaulted them

50% Sexual assaults on campus that are alcohol related

50% Sexual assaults happened on weekends between midnight & 6am

We then start wondering what can we do about this? What can we do if everything is happening so fast in the dark? How can we help those that are more vulnerable and susceptible to these attacks? These are the incognitos that were trying to solve.

4. Propose & Implement Countermeasures	PLAN/DO

Some countermeasures that we identify that can help to eliminate the root cause are the following:

- Adding more streetlight
- Adding more security guards to the campus.
- Creating an app to attack this problem.

We realized that the best option was to create an app that could attack this problem. This is more beneficial and more practical to work on. We can manage and track if the product is working, while the students are using it. Also, it is more cost efficient to be working on this. The app can help a bigger number of students at the same time. Additionally, it is eco friendly and every one with a smart phone can use it.

2. Set the Target	PLAN

We want to start by finishing our project before December 2020. The fact that we could finished our solution by that time is very important for future uses of the program. The following figure describes the task and time that will be invested per task.

Tasks	August	September	October	November	December
Recollect data in UPRM	■				
Generate data base		■			
Create the web interface		■	■		
Create the backend of the web app		■	■		
Create all the features needed to the app			■		
Sending alert to users				■	
Testing the web app				■	
Receive feedback on interface and usability propensity					■

Once we create and test our solution, we are going to implement it in the University of Puerto Rico, Mayaguez. Our next goals are going to be the following:

- Create a safer environment within the college campus.
- Minimize the amount of crimes by 10%.
- Minimize the number of female students being attacked by 20%.
- Collect feedback data to improve the application.

3. Analyze the Causes	PLAN

When we study this problem, we identify that this problem can be cause by multiple factors. Some of the most obvious one can be the small amount of guard safety within the college campus or the low amount of streetlight. Also, the security cameras are nonexistent in many places within the campus or do not have any infrared vision for night security. Besides that, there can be reason that are out of the control for us like the mental health of the attacker. Also, the social and cultural environment in which the attacker grew up can easily provoke these actions. We understand that many causes are out of our control, but we want to create an opportunity to mitigate these effects by attacking other causes.

5. Check/Evaluate	CHECK

6. Act and/or Standardize	ACT

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