**Feasibility Study and Project Plan**

**Miami Crime Statistics**

**Version 1**

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Abstract

To provide a simple view of criminal activity for the Miami area, the Miami Crime Statistics web service will be created. The way police reports are written can be hard to understand for the lay person, both the area in which they occurred and the meanings of the comments on the police report require previous knowledge to understand. Thus the hope is to provide a user-friendly representation of the aggregate crime data of the Miami area.

This document will determine the feasibility of solving this issue. It will also list suggested courses of solving the described problem, as well as briefly plot out the steps necessary for each course. The document will then analyze each course and make recommendations of which course to take.

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# Introduction

## Problem Definition

It is important for residents of an area to know what potential dangers are in their area. If there is a recent spree of breaking and entering, home owners that know about this crime spree can better keep themselves and their possessions safe. The issue remains that the way the crime data is recorded is all but unreadable to the lay person. This is why Miami Crime Statistics is being proposed, to better convey this information to an interested audience. The main feature of the service will be to provide a local area map with an overlay representative of the crime data in the constructed database.

## Background

This web service will use existing mapping platforms that are already available as a web service. It will use existing police reports to load into the database.

## Definitions, Acronyms, and Abbreviations

Database: The mechanism on which the webservice will host its data.

## Overview of Document

This document will be the feasibility report the group will conduct before designing and implementing the project. This document will then provide the proposed schedule for which the project will be done.

* Chapter 2 contains the feasibility study and all related data.
* Chapter 3 presents the proposed project plan and alternatives
* Chapter 4 will serve as an appendix for additional definitions and graphs.
* Chapter 5 will be the works cited.

# Feasibility Study

## Limitations and Constraints of the Current System

A similar service already exists, <https://www.crimereports.com>. This service places notations, or flags, over its collected crime data. This provides a large quantity of data for the user to page through. While our service could do something similar, our service will differentiate itself by simplifying the data for the user by conducting its own analysis and coloring danger zones to represent high crime areas.

## Function of the New System

* The purpose of the new system, Miami Crime Statistics, is to provide representations of analyzations that are made on crime data.
* A brand new web service to display collected information
* Keep a record of scanned crime data.
* Display graphs of collected data depending on user request
* Display an overlay on an map per request from user
* Allow moderators to add to and remove data from the database

## High-level Definition of User Requirements

* The user requirements for this system are very minimal. The user only need access to a computer that is able to access the internet through one of the more popular internet browsers (Chrome, Firefox, IE)
* The only security concern is only allowing privileged users (moderators) to directly access the database.

## Alternative Solutions

### Description of Alternatives

* In alternative 1 to scan and collect all crime data and manually enter the collected data into the database.
* In alternative 2 develop a application that is able to scan and collect the data automatically and automatically enter the data into the database.

### Selection Criteria

The feasibility study will be conducted on each alternatives: operational, technical, economic and schedule components.

Operating feasibility determines how well the plan solves the problem for the product owner. Technical feasibility determines the level of technology required to implement the plan, and also weighs the difficulty in acquiring and mastering said technology. Economic determines the monetary cost of the plan. And schedule determines the time cost of the plan.

### Analysis of Alternatives (refer to Appendix C – Feasibility Matrix)

* Alternative 1 while is less complex and would less implementation time, it is less viable for a continued service
* Alternative 2 Would increase the workload in design and implementation, but would provide a better service for our product owner.

## Recommendations

The recommendation for this project is alternative 2. While the increased design and implementation workload puts more weight on the one developer, it would produce a more significant and notable product. The product owner would not have to continually upload the data manually, the data would be able to upload itself given files to gather them from.

# Project Plan

## Project Organization

The project has been divided into five different sections: the Database section, the calculations section, the user interface section, the graph section and the map overlay section. The design and development will be entirely done by one person, who will be in charge to develop extra components as needed to reach each milestone of functionality.

### Project Personnel Organization

There is one person working on the project. So tasks will be separated by priority and completed by ability.

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Position | Periods required | Key Phases |
| Michael John Machin- | Website Developer & Database Manager | 1/26/15- 4/30/15 | All |

### Hardware and Software Resources

To complete this project a number of hardware and software resources will be utilized. The one developer will be using his own personal laptop as well as a virtual machine hosted on FIU school grounds. Each computer will require a updated version of netbeans with the groovey plugin. As well as a working copy of mySQL.

Hardware resources:

* 1 Laptop
* 1 Server group hosting VM

Software resources:

* Netbeans
* MYSQL
* GitServer
* SmartGit

## Work breakdown of Tasks, Milestones and Deliverables

This semester the group will be using an agile methodology. This means the group will break down sections of developing the product into sprints in order that result in a usable section of the product. During each sprint the section of the product will be developed, tested and then finally displayed, upon which the next sprint will be started. Each sprint will be over a two week period.

Pre Sprint

* Requirements solicitation
* Initial Design
* Environment set up

Sprint 1

# Appendix

## 4.1 Appendix A – Project Schedule (Agile Approach)

4.2 Appendix B – Feasibility Matrix

|  |  |  |  |
| --- | --- | --- | --- |
| Feasibility Criteria | Weight | Alternative 1 | Alternative 2 |
| Operational Feasibility | 30% |  |  |
| Functionality: To what Degree is the problem solved |  | The problem is  solved but requires a moderator to maintain a basic function. | The problem is solved and its solution is automated. |
|  |  | Score: 60 | Score: 100 |
| Technical Feasibility | 30% |  |  |
| Technology: The required technology to implement this plan |  | No significant technology beyond A java IDE | No Significant technology beyond a java IDE |
| Expertise: An assessment of the technical expertise needed to develop, the system. |  | Minimal knowledge required to develop a table to enter information into the database | High level of expertise to develop a system to read pdf tables and gather information reliably |
|  |  | Score: 100 | Score: 75 |
| Economic Feasibility | 30% |  |  |
| Cost to Develop |  | Database Hosting: Self  Maintained/School's  Resources - 0 | Database Hosting: Self Maintained/ School's  Resources - 0 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| Payback |  | Same as 1. | Same as 1. |
| Net Present Value |  | NA | NA |
|  |  | Score: 100 | Score: 100 |
| Schedule Feasibility |  |  |  |
| Assessment of how long the solution will take to design and implement. | 10% | 1-2 months | 2-3 months |
|  |  | Score: 90 | Score: 85 |
| Ranking |  | 87 | 91 |