

67-475 Information Systems Applications
Carnegie Mellon University
MIWatch – Milestone 3

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1. Implementation Status

A working version of the MIWatch map is currently embedded on the test site at www.miwatch.org/cmu viewable to users who are given the hyperlink.

Implemented map features:

Searching a zip code returns potential facilities located in local area. User can then filter down locations through selecting Mental Health or Substance Abuse categories (more filters will be added later when data for additional locations are received.) Once a list is selected, a display box is shown with tabbing that separates information into General, Directions, Contact, Services and Payment. Users can then select the 'Directions' tab to enter their personal address and retrieve travelling directions to selected location.

Roadblocks:

To make up for lost time due to delay in needed data for database updates, survey for feedback will be designed ahead of time – before completion of map updates so it will be ready to be sent out as soon as map features are updated. In the meantime, the team will look into incorporating a forum/discussion board onto the site while we wait on data for the map.

Next steps/Implementation Plans:

Friday, November 6 th :	Email reminders sent out to location data providers to submit data.
Monday, November 9 th :	Meeting with John Pierce for project demo and feedback (tent.)
Wed., November 11 th :	Update database with new location points (hopefully have new cities included.) Increase filtering capabilities to narrow down locations listed.
Friday, November 13 th :	Implement rails on MIWatch – embed map Meeting with Phyllis for project demo and feedback (tent.)
Friday, November 20 th :	Complete update of locations database Email user feedback survey for users to test map functionality of site.
Wed., December 2 nd :	MIWatch Final Presentation (tent.)
Friday, December 4 th :	IS Applications Senior Project Fair

2. Review of Project Plan, System Prototype, System Usability

Team Historic Elizabeth gave some comments on how to improve various aspects of the map functionality implemented for MIWatch.org, including search functions, view, and content. Search functions could possibly be improved with filtering earlier on in the search process. For example, rather than having check boxes for categories to filter out results after the user completes the search, have the user choose categories before search results are shown so that users will not feel overwhelmed with a large number of results. In addition, the long descriptions of locations might be unnecessary and can be trimmed down, which can help the user feel more comfortable when viewing the website. Also, the naming of tabs within the map is not as descriptive as they can be. One member from Team Historic Elizabeth pointed out that "Payment" is not very fitting a name for referring to what kinds of insurance policies an agency accepts. Finally, the evaluating team suggests that running usability tests will be very helpful in determining issues with the existing system. By running user tests, the team can gain insight into which direction to improve upon.

The team plans on incorporating these comments after implementing the database necessary for holding all the information. After the database has been implemented, the team can update search functions and process, view, and other aspects of the map. In the meantime, the team will develop user tests that asks the tester to perform specific tasks on the system and provide feedback on his/her experience. When all the data collection has been completed, the team will finalize the design and implementation of the system, heading into the deployment and maintenance phases.

3. Drafts of final system documentation

MIWatch Technical Documentation

3.1 Technologies Used:

Ruby on Rails:

Rails is the web framework used to build this application, utilizing the Ruby programming language. Like many contemporary web frameworks, Rails uses the Model-View-Controller (MVC) architecture pattern to organize application programming. Version 2.3.4 (or above) of Rails and 1.8.7 (or above) of Ruby is required to run this application.

Rails Gems:

Gems are “plugins” utilized by the Rails framework. The following gems are required for this application. They must be installed by the party who is hosting the application.

- geokit (1.5.0 or greater)

Rails Plugins:

The following plugins are required for this application and already come bundled with the application.

Note: The geokit tool is required as both a plugin/gem

- geokit (1.5.0 or greater)
- ym4r_gm (0.6.1 or greater)

Database Software:

MySQL is used as the database management system. Database configuration options can be set in: `/config/database.yml`

Mapping Software:

We used the Google Maps API to both geocode the locations and then render the map with markers. An API key is required to use the Google Maps API. Each domain requires a separate key. To set yours, go to `/config/gmaps_api_key.yml` and `/config/initializers/geokit_config.rb`

3.2 File Structure:

/vender

This folder contains the plugins and gems directories utilized by the application. Each plugin and gem has a separate directory.

/config

This folder contains the configuration files for the application. Database settings and Google Maps API keys are set here.

/public/stylesheets

This folder contains map.css with style settings specific to the map, which are separate from the main site.

/app/controllers

Files in this folder control the flow of application logic.

/app/models

Files in this folder provide connections to database tables and make available the core methods utilized by the controller(s). Each model can be thought of as a class.

/app/views

Files in this folder control what is displayed when the user uses the application. This is where the index.html file and other html files are stored.

3.3 Architecture and data Flow:

/public/stylesheets/map.css

This is the main css file used by the application to handle how the map is displayed.

/app/controllers/map_controller.rb

This is the main controller utilized by the application. It is one of the first files called when a user interacts with the application. It then calls methods from the map.rb model.

/app/models/map.rb

This is the main model used by the application. The core method found here is `get_locations`. It handles the database calls (finding the locations) and sends back to the controller an array/hash of the map locations to be displayed on the map. It also generates the html to be displayed on the side panel of the map.

/app/models/location.rb

This is another model used in the application. It has no methods and is required because every database table requires a unique model. Because we make use of various Google Map API functions through the `geokit` gem/plugin, we have to make the location table “mappable” by calling “`acts_as_mappable`” on the table.

/app/views/map/index.html.erb

This is the main html file used by the application. Any changes to how the map, search form, and category options are displayed should be modified here.

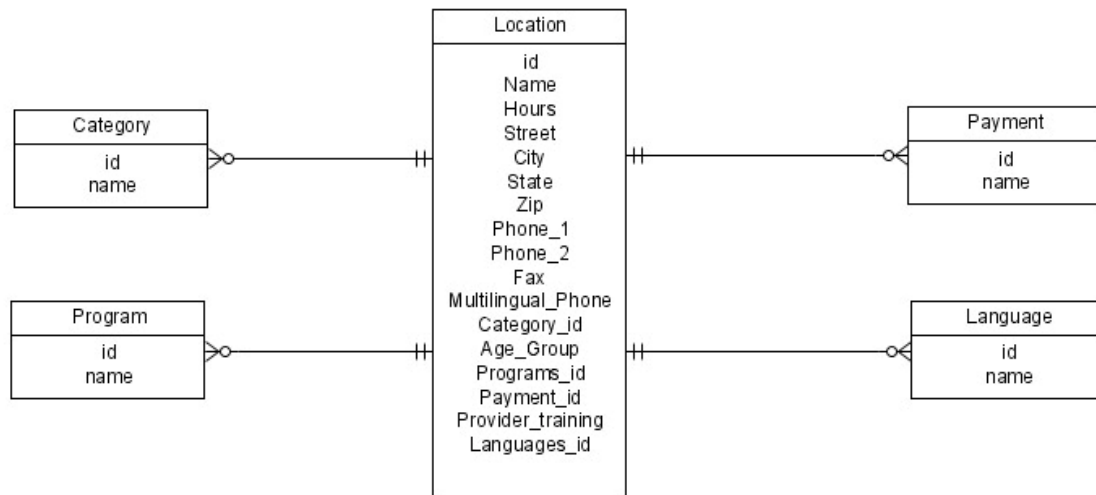
/app/views/map/filter.rjs

This is an ajax file used by the application. Any time the user changes which categories are displayed on the map, this file is called. It handles the repopulating of the map by taking what is stored in the array/hash returned by `get_locations` in `map.rb`. By making use of ajax, the entire page does not have to be reloaded, as only the map has to be changed.

/app/views/map/find.rjs

This is an ajax file used by the application. Any time the user searches for locations by a specific zip code, this file is called. It handles the repopulating of the map by taking what is stored in the array/hash returned by `get_locations` in `map.rb`. By making use of ajax, the entire page does not have to be reloaded, as only the map has to be changed.

3.4 Entity Relationship Diagram



4. Project Management Section

Project MIWatch has increased in complexity as more people become involved in this project. In addition to Chad Everett from last milestone, other members include John Pierce, Sarah Henley, Laura Milazzo-Sayre, Jim VanNorman, Jay Yudof, etc.. The addition of new contacts increases complexity and results in greater efforts placed in contacting newer members and collecting and organizing information from them.

Although new contact persons increased the complexity and risks of Project MIWatch, they also increase the feasibility and possibility of success for the Project. With additional information, the team can fully design and implement a database given all the information. In addition, as the amount of information on MIWatch.org increases, its value to potential users also increases.

Newly added and completed tasks include setting up a teleconference with the others involved and gathering information from them during the meeting. The team has asked for local information from new members that are to be used for populating the database. After this information has been gathered, the team will design and populate the database that is to be connected with the MIWatch server. The design and implementation of the database is a task that introduces new risks to the project. Risks include data security, technical issues, time management, and collection of data. In order to deal with these risks, the team plans on designing the database as soon as information has been given and providing instructions on updating and maintain the database for future reference. These plans will significantly reduce risks of technical failure and increase sustainability, expandability, and reliability of the database. In addition, after implementing the database, the team will create documentation with instructions on maintaining and updating the database, and hold training sessions for using the database as well, in order to ensure the smooth deployment and continued success of the technology.

Although new risks have been introduced, the team has also been alleviated from site redesign tasks. Rather than implementing a completely new design onto the website, the team is simply responsible for embedding the map onto the existing website. This reduces the risk associated with deploying and testing a new design.

System metrics include both technical and nontechnical aspects. Technical aspects will be evaluated based on unit tests and finding possible defects. Errors will be fixed as soon as possible so that they will not deter the team from implementing other functionalities. Additionally, the team will hand out user surveys for evaluation of the system from a usability standpoint. If possible, user tests will be conducted in person with potential future users to gather first hand information on the user experience. Suggestions will be evaluated and incorporated into the system.

5. Program Book Entry and Prototype Web Poster

MIWatch.org: News About Mental Illness

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The Client

MIWatch is an online news source for persons affected by mental illness(es) including, but not limited to patients, family members, service recipients, clinicians, and members of the press. Site features enable users an easy to navigate interface allowing searches to be conducted by date, author, and a unique search engine of the archives. The end-goal of MIWatch is to be an information hub for mental health issues.

The Problem

People affected by mental illness(es) need a place where they are able to search for available mental help facilities nearest their location. Locations information would ideally be contained in a central hub which would serve as a one-stop-shop for all mental illness informational needs.

The Solution

Utilizing the Google API, the team implemented a map of mental help facilities, which allows users to search for facilities nearest their address. These locations are maintained through a locally managed database that is updated by the team, and later by MIWatch staff.



MIWatch.org

A ONE-STOP RESOURCE SITE FOR MENTAL ILLNESS

MIWatch.org

news about mental illness

November 6, 2009

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Would you forego the public option for insurance in order to pass health reform?

☐ Yes

☐ No

☐ It depends

☐ Other:

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New on MIWatch



Bill Anthony and Kevin Huckshorn have put together the ideal text for future leaders of behavioral health programs and institutions, writes Richard Van Horn in a review of *Principled Leadership*. [Read Van Horn's review.](#)

Mental health team in pediatric clinic



Making behavioral health a seamless part of the visit to a pediatrician is leading to early screening for emotional problems and access to easy follow-up. [Full Story](#)

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