Programming Task for Software Engineer Position
Great Lakes Bioenergy Research Center (GLBRC)
Clint Cecil

Develop a web application with a database in Ruby on Rails to achieve the functionality described below. Please provide a link to a git repository with working application and instructions for running it. For the data to be entered, either include a sqlite database, some way to automatically generate the data into a database or stand the app up somewhere self-hosted or on the cloud (Heroku) so it is accessible for review.
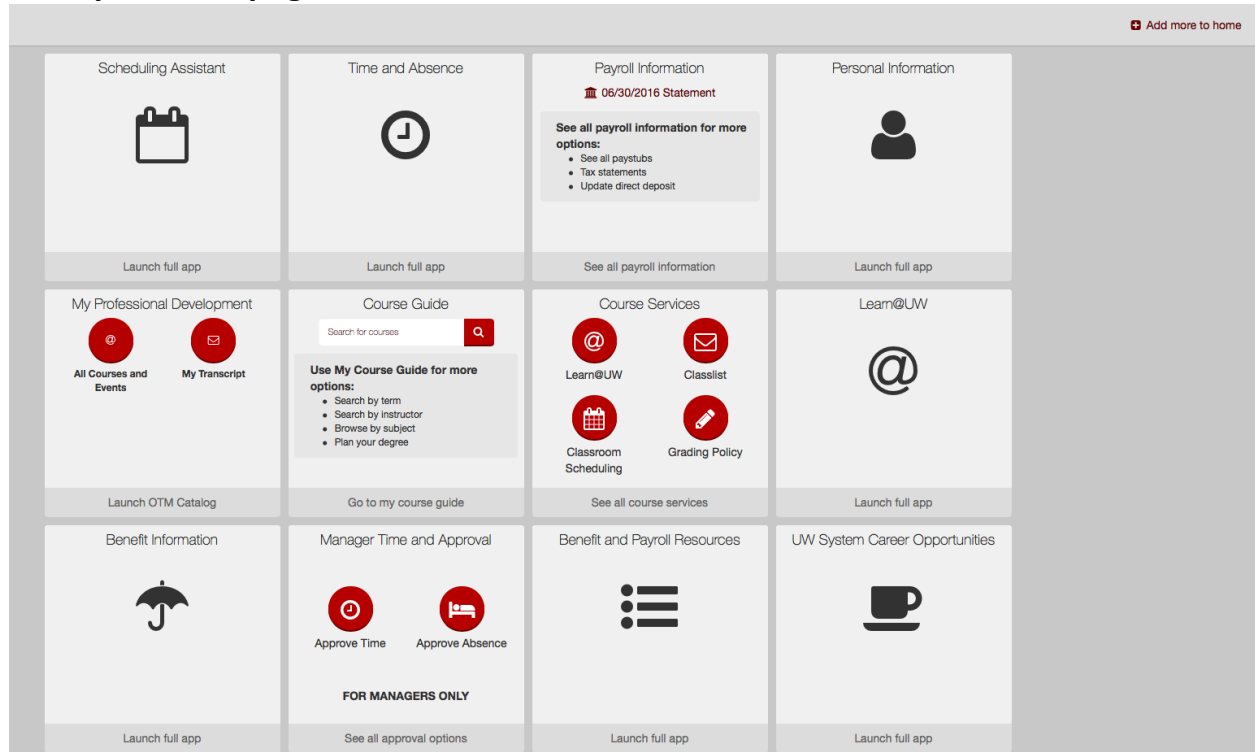
This is intended to be an opportunity for you to demonstrate your abilities in web programming with a simple, contrived application. If you do not complete the task, please turn in whatever you are able to.

User Story
 Alice logs into the application for the first time and sees a page containing graphic links (shapes) to other programs. In a fully fleshed out program, these links would take the user to the other apps they represent by clicking on them. For this simple application, these shapes should act as simple links. The programs Alice sees on her first visit to the site are the ones shown to new users by default.

Alice can customize the programs that are shown to her by selecting not to see one or more programs that are currently showing and by adding other programs from a list of available applications. When Alice makes a change to her available programs, the display updates to show the changed selections. Any changes Alice makes persist to subsequent sessions.

Example home page:

Scheduling Assistant

Launch full app

Time and Absence

Launch full app

Payroll Information

🏛 06/30/2016 Statement

See all payroll information for more options:
- See all paystubs
- Tax statements
- Update direct deposit

See all payroll information

Personal Information

Launch full app

My Professional Development

@ All Courses and Events

✉ My Transcript

Launch OTM Catalog

Course Guide

[Search for courses] 🔍

Use My Course Guide for more options:
- Search by term
- Search by instructor
- Browse by subject
- Plan your degree

Go to my course guide

Course Services

@ Learn@UW

✉ Classlist

📅 Classroom Scheduling

✏ Grading Policy

See all course services

Learn@UW

@

Launch full app

Benefit Information

☂

Launch full app

Manager Time and Approval

🕐 Approve Time

🛏 Approve Absence

FOR MANAGERS ONLY

See all approval options

Benefit and Payroll Resources

Launch full app

UW System Career Opportunities

☕

Launch full app

Program Structure and Details

- There is only one main application page: the home page. This is seen by users after they log into the application. This page shows a collection of graphic icons that link to other available programs.
- You need to provide user login functionality. Please use an existing library or other package that allow you to implement this functionality quickly. Security is not a concern in this example
- You do NOT need to create an interface for creating or maintaining user records. Just generate the sample users described in the User Table Description (below) by some easy means.
- Provide functionality to display all available applications not currently on the user's home page when the user selects "Add App". Allow the user to select one or more of the listed apps to add to their home page.
- Similarly, there should be a way for users to remove apps from their home pages.
- Application table should have attributes for Name, Description, Color, DefaultStatus (Whether an App is added to a user by default), and link, and include these rows:

Name	Description	Color	DefaultStatus	Link
Google	Search Engine	Red	Yes	http://www.google.com
Wisc	UW homepage	Blue	No	http://www.wisc.edu
GLBRC	Great Lakes Bioenergy Research Center	Yellow	Yes	http://www.glbrc.org
WEI	Wisconsin Energy Institute	Green	No	https://energy.wisc.edu/
Twitter	Twitter	Purple	No	https://twitter.com/

- User table should have user login and password attributes and include these rows:

login	Password
user1	glbrcpass
user2	glbrcpass
user3	glbrcpass

- The applications a user sees should be determined by a User-Apps link table.
- Each link to a program includes the name and description of the program to which it links
- The links should be able to be ordered by dragging and dropping.
- The models should have some validations for logical data

Please send the public GitHub repo and any relevant documentation to Clint Cecil (ccecil@wisc.edu) by the date given to you in the email. Please feel free to email Clint Cecil with any questions or clarification requests.