Route Buddy

91.462 GUI Programming II

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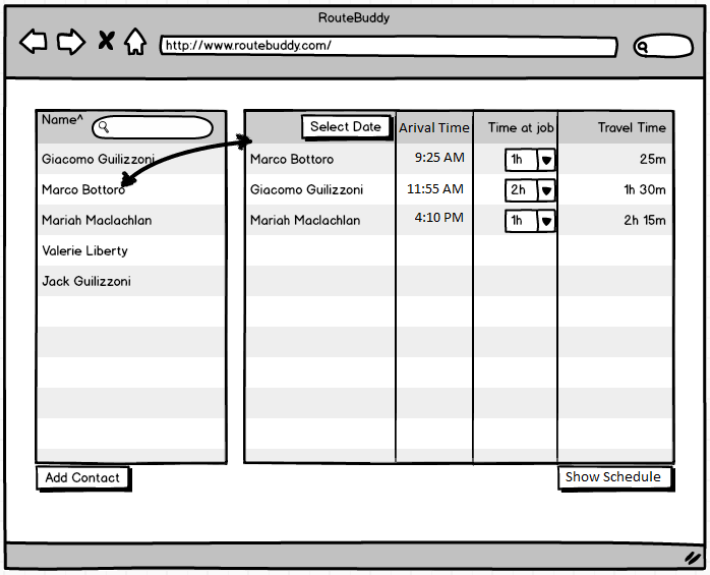
Introduction

Route Buddy in intended to be a web-based contact management and work scheduler application. The intended user would be a company that travels to customer locations to perform work. Our program will store contact names and addresses and allow the user to add these to a list of appointments for a given day and use the Google Maps API to calculate travel time between addresses. We also hope to implement a mobile device user interface to access contact and schedule information from a smartphone.

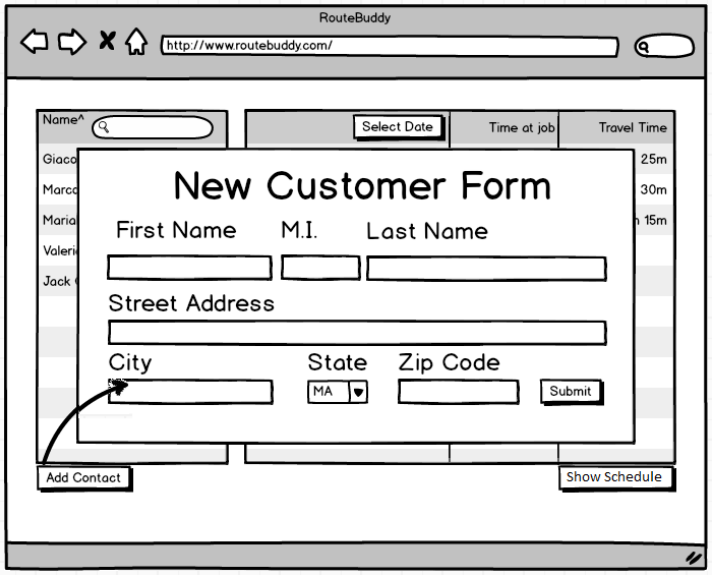
Components

Scheduler



The scheduler portion of the application is the main functionality of the program. At this screen the user can search for and add contacts to the daily route schedule using a simple auto-completing search and drag-and-drop interface. Once a customer is dragged into the daily schedule, the travel time to that customer's location will be calculated using the Google Maps API. The travel time to the first location will be calculated using a user defined starting address and time. The user will then be able to select approximate job times for the customers in the schedule to calculate travel time to the next customer location.

Contacts Management



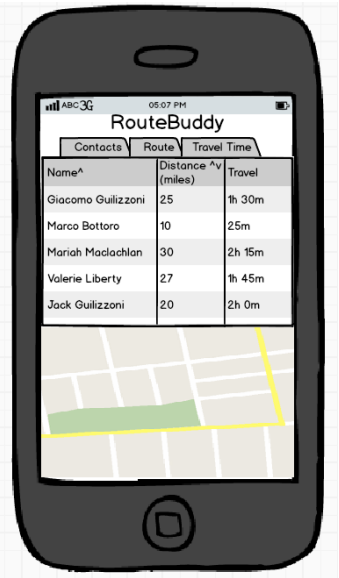
The other major functionality of the Route Buddy application will be contact management. The user will be able to add new contacts by clicking on the "Add Contact" button. Double-clicking existing contacts will open their information for editing. New contacts will become available for scheduling upon completion.

Route Report

When the user is finished creating the daily schedule, they will be able to click on the "Show Schedule" button to display a printable daily route schedule and map generated using the Google Maps API. This is intended to be given to the employee who will be traveling to each customer location and will display customer names, addresses, travel times, arrival times and estimated job times.

Mobile User Interface

The mobile user interface will feature the ability to view contact and daily route information easily from a mobile device browser. This feature is intended for use by employees in the field to reference customer and schedule information and therefore will not feature any of the schedule making functionality.



Intended Users

Route Buddy is intended for use by any organization that provides a service at multiple customer locations throughout the day. The target businesses would have a daily plan and have to meet a schedule of "jobs" or "stops." With all of Route Buddy's features, the software is simple enough to serve anyone: a delivery person, a house cleaner, an electrician or even big companies that go to multiple locations a day such as Comcast, Verizon, etc. Route Buddy will take into account start, travel and job times, simplifying any organization's schedule and providing an estimated summary of your work day.

Possible Issues

Google Maps

No member of our group is proficient with the Google Maps API. However, we have looked over some of the features and it does provide the functionality required to serve our purposes for this application. Not being familiar with it at first could lead to some minor issues with actually calculating travel times from one location to another, which is a big part of our program. If the API turns out to be unreasonable to work with then alternatives such as the Bing Maps API will be considered.

Auto-completion

We would like our program to display available results as the user searches a name of their client in a search bar in order to then drag and drop this information onto their schedule for that day. Possible issues might arise in our coding process such as the ability to reference specific indexes for customer information when adding or removing customers. If sufficient difficulties arise from our attempt to use the Auto-Complete widget then we will simply use a more traditional list.

Schedule of Development

Date	Task	Assigned To	Release
02/07	Further researching and designing of software; Distribution of roles.	Everyone	Alpha
02/21	Customer search field and initial data drop area; main page designed	Tarsis	Alpha
02/21	Google Maps API integration	Dan	Alpha
02/21	Entering of new customer data is effective	Simon	Alpha
03/05	Customer search field functional with hardcoded customer data (without auto complete)	Simon	Beta
03/12	Drag and drop of customers into drop area works	Tarsis	Beta
03/21	Customer search with auto complete is effective	Simon	Beta
03/26	Route summary layout with map area is designed	Dan	Beta
04/04	Algorithm of route calculation times between locations	Dan	Beta
04/16	Algorithm and summary interface binding	Dan	Final
04/19	Mobile interface is created	Simon, Tarsis	Final
04/23	Testing and bug fixes	Everyone	Final
04/25	Final Testing	Everyone	Final

Note: Alpha version of website deadline is 02/28/2013
Beta version of website deadline is 04/16/2013
Final release of website deadline is 05/01/2013

Minimum Functionality for Release

At the time of release, the minimum functionality will include the ability to add contacts, view the scheduler, and plan the route using the Google Maps API.

Additional Functionality

Our group is planning to include a mobile-friendly version of the application. The mobile site will be optimized for mobile devices and allow limited functionality, including viewing the schedule and the map using Google Maps, but will not include the ability to modify contacts or create new ones. The mobile site is feasible to create, however time may prove to be a constraint, and may not be finished on time.

Features Which Will Not Be Implemented in Initial Release

There is not enough time to develop the back-end database required for the application to be fully functional. The application will feature a hard-coded contacts list and the ability to add new contacts, however the contacts will be specific to the current instance and will not save to a permanent database.