

FundsXpert

*The Property Tax Return Finder,
Version 2*

Graphical User Interface Programming II
Project Proposal

By

Jose Flores

Michael Meding

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Goal

To create a web application that discovers when a potential client overpays their property taxes and allows the potential client to apply for a refund via the third party administrator. The application will also allow the administrator to find new clients who do not use the application and notify them of a potential refund.

Target Users

The target audience for the application will be individuals who pay property taxes, specifically those who have overpaid due to tax rate changes within their districts. The application will also target the companies who specialize in property tax returns and are looking for clients who meet that criteria.

Features

Server application

The server application will consist of an API and controller. This part of the application will handle data communication between the web client and the API via the controller. The controller will authenticate users and allow access

to secure sections of the application. Additionally, the application will make database transactions and handle email.

Web client application

Data presentation

- The application will use dynamically generated tables from JSON. Output on the client side will be filterable and sortable.
- There will be a graphical map display that will show tax refund density hot spots. The map will allow users to select addresses graphically.
- The application text will be displayed in multiple languages, with text output translated based on browser language preference or overwritten user selection. This translation will be done by the Google Translate Website Widget. (The API is no longer free as of 2015).

Platform Independence

The application will be developed with a mobile friendly display, allowing for browsers in both small and large screen devices to display appropriately. This will be done by leveraging the capabilities of Twitter Bootstrap which is well supported and mobile friendly.

Content pages

The application will hold a series of web pages, some dynamic and others

static, these pages are described in Table 1.

Table 1 Page Descriptions

Page name	Description
Home page	Will be the main landing page for the application, it will contain a description of the application and services offered.
Contact page	Will hold an email form to contact the administrators, as well as other contact methods they can use such as phone and mail addresses.
Frequently asked questions (FAQ)	Will hold a list of commonly asked property tax questions as well as questions relating to the use of the application and the services being offered.
News and press	Will hold links to articles and feeds with information relating to the application and the services being provided.
Refund	The main client application, it will allow non-administrators to search properties by address or map interface. It will display the tax payment breakdown, and whether property tax was overpaid and a refund can be retrieved. If a refund can be retrieved, the client will receive a quote, and they can then apply for the refund

	once they fill out a form.
Administrative console	The administrative console will be behind a secure login with account registration. It will hold database management, user management, and client finding tools.

Client view mock ups

The following are mock up images of the application pages that prospective clients will see.

Figure 1 Home page

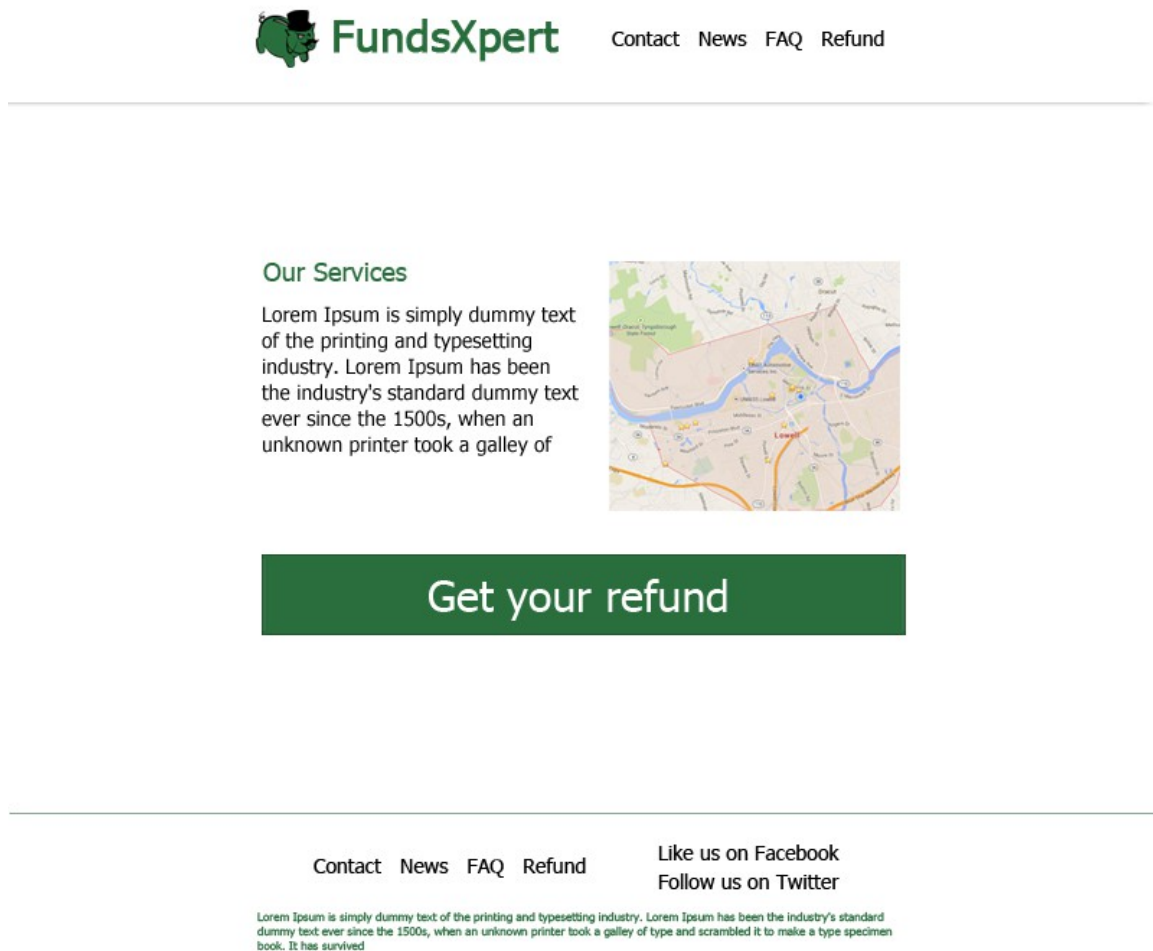



Figure 2 Contact page

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[Contact](#) [News](#) [FAQ](#) [Refund](#)

Contact us

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum.

Name

Email

Submit

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Figure 3 News page

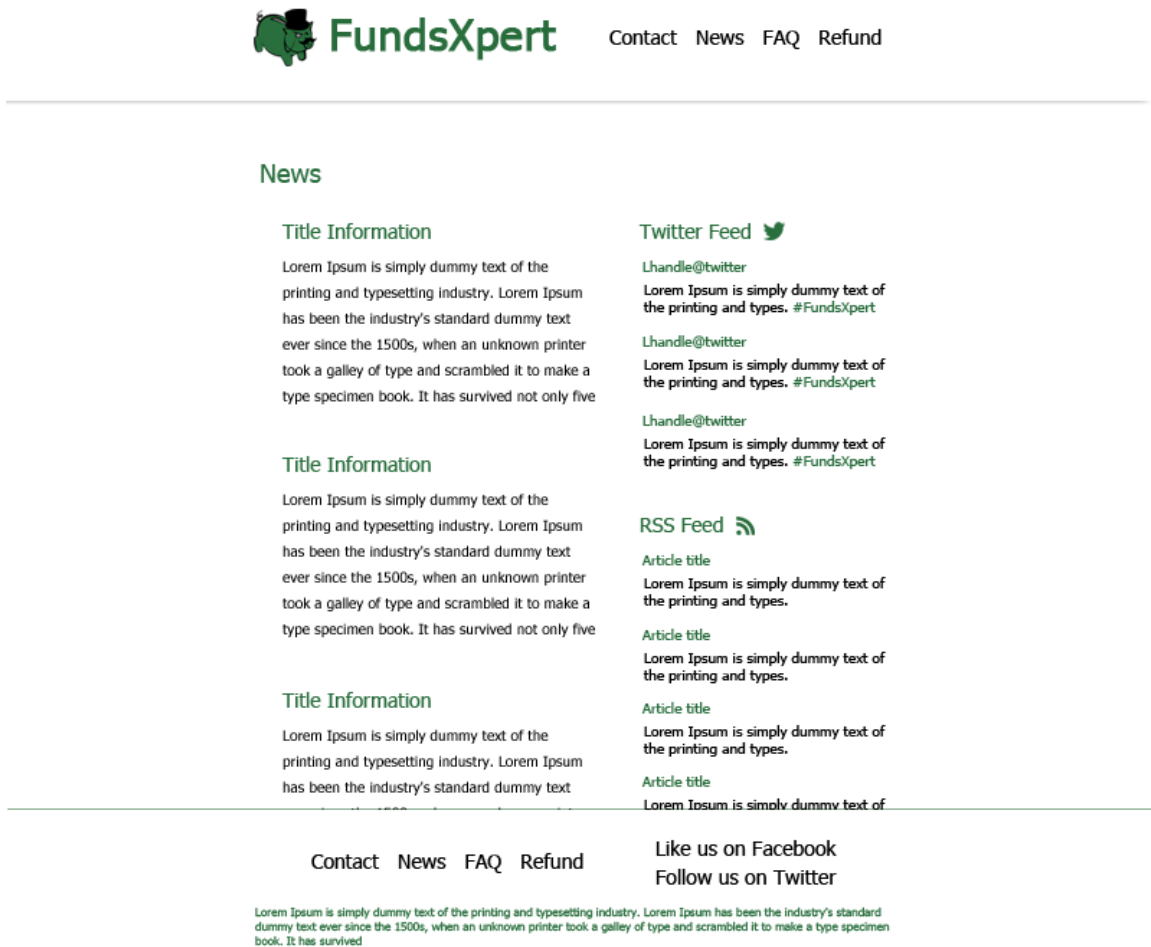



Figure 4 Frequently asked questions page



Figure 5 Refund Page (no report)

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Refund

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Search

Submit

OR




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Figure 6 Refund page (with report)

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ContactNewsFAQRefund

Refund

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Thead	Thead	Thead	Thead	Thead
Tax name	14%	+5%	\$1342	\$1400
Tax name	14%	+5%	\$1342	\$1400
Tax name	14%	+5%	\$1342	\$1400
Tax name	14%	+5%	\$1342	\$1400
			\$1342	\$1400

You have over payed and are owed a refund.

Apply for a refund

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Name

Email

Submit

ContactNewsFAQRefund


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Administrator view mock ups

The following are mock up images of the application pages that administrators will see.

Figure 6 Refund page (with report)

 **FundsXpert** [Main Site](#) [Administrative Console](#)

Log in

Name

Email

[Log in](#)

Register

Name

Email


Password

[Log in](#)

[Main Site](#) [Administrative Console](#)

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Figure 7 Refund page (with report)

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[Main Site](#) [Administrative Console](#)

> User Manager

Add user

Name	Email	Actions
User name	email@dom.com	<div>Edit</div> <div>Reset</div> <div>Delete</div>
User name	email@dom.com	<div>Edit</div> <div>Reset</div> <div>Delete</div>
User name	email@dom.com	<div>Edit</div> <div>Reset</div> <div>Delete</div>

> Client Manager

Add client

Name	Email	Value	Actions
User name	email@dom.com	\$350	<div>Contact</div> <div>Delete</div>
User name	email@dom.com	\$350	<div>Contact</div> <div>Delete</div>
User name	email@dom.com	\$350	<div>Contact</div> <div>Delete</div>


> Client Finder

Address

OR

List by Value ☐ High ☐ Low

Find



[Main Site](#) [Administrative Console](#)

Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived

Components

To successfully implement this application a series of components will need to be created. The component name and how that component relates to this

application are described in Table 2.

Table 2 New Project Component Descriptions

Component	Description
MySQL database	A database will need to be installed and configured for the application to use. Table structures to hold the tax data, user credentials, and client lists need to be created.
RESTful API	An API that can handle communication between devices and the server needs to be created. This API will also track and control user sessions and security for the site.
Application Logic	The back end must handle the REST API, authentication, database communication, and SMTP email.
Static pages	The content of the pages, including forms and any non-dynamic content.
Form handlers	Handle the submission of forms via a JavaScript handler. Validation will be preformed using AngularJS.
News feed	Handle RSS and Twitter streams and display their content.
Tax worksheet	Display a tax record of user data and refund amount if applicable. This component will then allow the user to request a refund.
Property	Allow a user to search for their property by name, address,

finder	or a map input.
User manager	Allow the addition, editing and removal of users, as well as the resetting of passwords.
Tax data updater	Allow CSV files to be added to the system (Tax data files are in this form), which then get stored into the database. New entries are added, while old entries get updated.
Client list manager	Allow a client list to be modified. These clients can be added by the application due to a request or by the administrators manually. They should only be deleted by the administrators. Their communication history needs to be stored here.
Client finder	Use existing tax data to determine potential clients.

The following table describes which existing application programming interfaces we will be using and how they pertain to this project.

Table 3 Existing Component Descriptions

Component	Description
Translator	Using existing services, all pages can be translated to the user's language of choice.

	<p>Google Website Translator Gadget</p> <p>This component will allow on-the-fly translation of web pages without having to purchase access to the Google Translate API.</p>
Hot spot map	<p>Using the Google Maps API and passing boundary data, regions can be overlaid to display a map that visually shows areas that should be targeted for potential clients.</p>

Expected Issues

1. Issues that will arise in this project will be related to the mapping components, as there will be a learning curve with the existing API. A data source for external region boundaries will need to be fetched dynamically and then applied to the maps so that overlays can be generated.
2. There may also be a learning curve with some of the technologies we have chosen to use for this project. AngularJS is well suited to this application. However, AngularJS can be quite complex, which should not be overlooked as a potential for some issues.

Schedule

All the components have been ordered by date, making sure that their prerequisites are due before them, in Table 4. In the table their date of expected completion is listed and the assignees are checked off. Note that item 5 depicts the writing of the API core. It does not include all API methods as those will be written upon a need basis as other components are developed.

Table 4 Project Schedule

#	Task	Req.	~ Date	JF	MM
1	Server install (web + database)		Fri, Feb 13, 15		✓
2	Database structure		Fri, Feb 20, 15	✓	✓
3	Write static pages		Fri, Feb 20, 15	✓	✓
4	Write controller	2	Fri, Feb 27, 15		✓
5	Write API core	1	Fri, Feb 27, 15	✓	✓
6	Form handlers	5	Fri Feb 27, 15	✓	
7	News Feed		Fri, Mar 6, 15	✓	

8	Tax worksheet	5	Fri, Mar 6, 15	✓	
9	Property finder	5	Fri, Mar 6, 15	✓	
10	User Manager	5	Fri, Mar 13, 15		✓
11	Tax data manager	5	Fri, Mar 13, 15		✓
12	Client list manager	5	Fri, Mar 13, 15		✓
13	Client finder	5	TBD	✓	
14	Translator		TBD	✓	
15	Hot spot map	5	TBD	✓	✓
16	Usability Testing		TBD	✓	✓

*** Req. stands for the component prerequisite number, which needs to be completed before the component can be started.**

*** JF are the initials for Jose Flores.**

*** MM are the initials for Mike Meding.**

Acceptability Criteria

To define this project as complete for version release, the administrative console, database features, and data searching with filtering capabilities must

be implemented. It will be deemed unnecessary to implement the hot spot map of potential clients, and multilingual support for the application. However, if time allows we will begin development of these features.