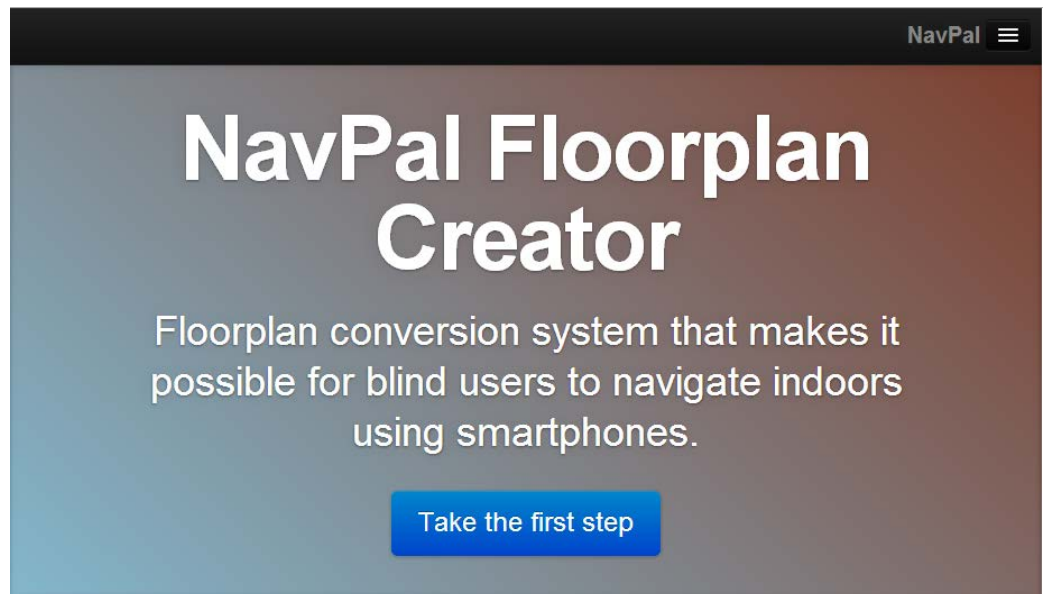


NAVPAL FLOORPLAN AUTHORING TOOL



5/1/2013

Front-end summary

A brief overview of the user interface for the Floorplan Authoring Tool. Goes through each of the HTML pages, javascript functionality and stylesheets for the site.

NavPal Floorplan Authoring Tool

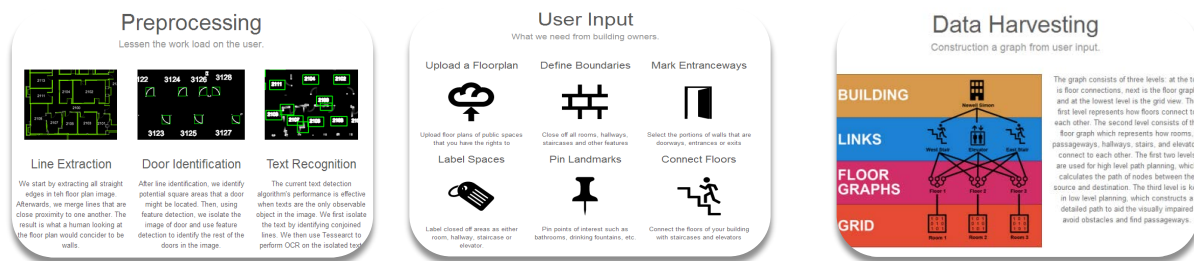
FRONT-END SUMMARY

HIGH LEVEL STRUCTURE

For each HTML page there is corresponding javascript and stylesheet page. Each of these files share the same name with the exception of the file extensions. HTML pages are stored directly within the www directory. Javascript files are kept within the www/js subdirectory. Similarly, Stylesheets are kept within www/css and images within www/img.

PAGE OVERVIEWS

Landing Page



Preprocessing

User Input

Data Harvesting

Our landing page is meant to showcase every aspect of our tool. We start by giving a brief overview of how we process a user's floor plan. We then move onto describing what input we need from our end users in order to generate data. Lastly, we give a brief summary of the data that we collect with our tool and how it is structured.

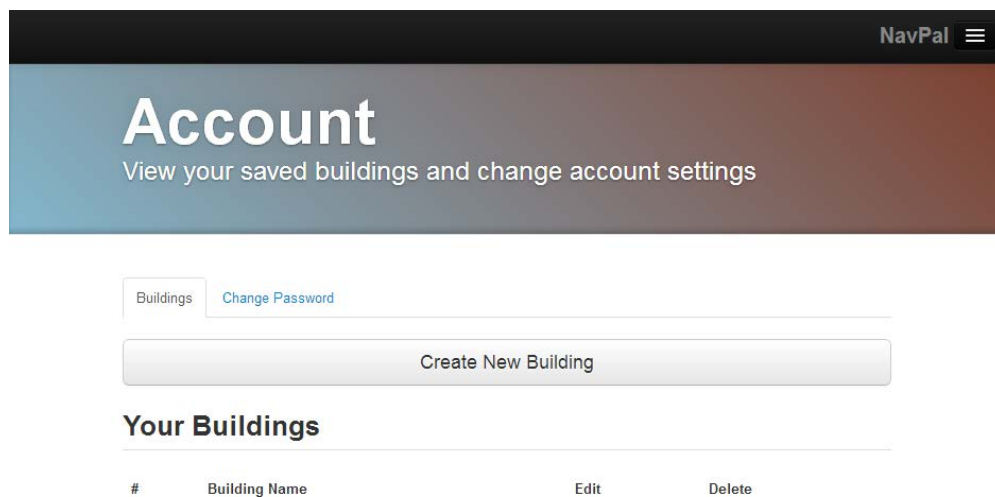
Authentication Page

This page simply allows existing user's to log in to their accounts and for non-existing ones to create an account with us.

The screenshot shows the 'Login or Sign up' page of the NavPal application. The page has a dark header with the 'NavPal' logo and a hamburger menu icon. The main content area has a light blue background with the text 'Login or Sign up' and a link to 'Terms of Use and Privacy Policy'. Below this, there is a prompt 'Please fill out your information to get started.' and two columns of input fields. The 'Log in' column has fields for 'Email' and 'Password' with a 'Login' button. The 'Sign up with email' column has fields for 'Email', 'Confirm Email', 'Password', and 'Confirm Password' with a 'Create account' button.

Account Page

The account page is where we take user's who have previously made an account with the NavPal Floorplan Creator. On this page a user can view, edit and delete buildings they have already created. User's can also make a new building from this page or change their password.

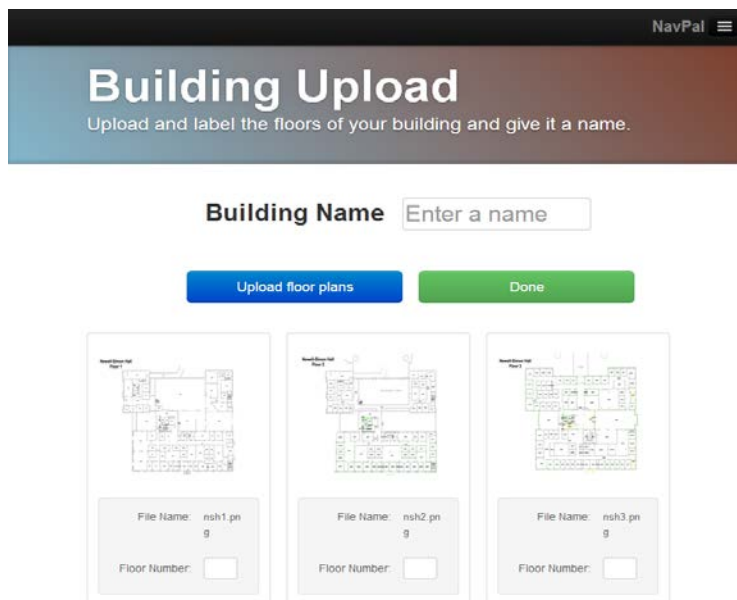


The screenshot shows the 'Account' page of the NavPal Floorplan Authoring Tool. At the top, there's a header with 'NavPal' and a menu icon. Below the header, the main title 'Account' is displayed in large white text on a dark background, with the subtitle 'View your saved buildings and change account settings' in smaller white text. Below this, there are two tabs: 'Buildings' (active) and 'Change Password'. A large button labeled 'Create New Building' is positioned below the tabs. Underneath, the section 'Your Buildings' is shown, which contains a table with columns for '#', 'Building Name', 'Edit', and 'Delete'.

#	Building Name	Edit	Delete
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Floorplan Upload Page

On this page a user uploads the floorplans from their building. They may upload as many floorplans at once as they choose. Each floorplan has a thumbnail dynamically created and is run through the preprocessor to extract walls, doors and text for the authoring tool to make use of. Each thumbnail will display a larger view of the Floorplan in holds when the user hovers over the image. When the server is done preprocessing, a loading spinner is removed from the floorplan thumbnail. When the user has finished uploading floorplans, they must give each floor a label so that the tool can sort them appropriately. In addition the user also must give their building a name. Once all the preceding steps have been completed, a user is expected to press the done button with will direct them to the authoring tool.




The screenshot shows the 'Building Upload' page of the NavPal Floorplan Authoring Tool. At the top, there's a header with 'NavPal' and a menu icon. Below the header, the main title 'Building Upload' is displayed in large white text on a dark background, with the subtitle 'Upload and label the floors of your building and give it a name.' in smaller white text. Below this, there's a form with a 'Building Name' label and an input field with the placeholder text 'Enter a name'. Below the input field, there are two buttons: 'Upload floor plans' (blue) and 'Done' (green). Below the buttons, there are three thumbnails of floorplans. Each thumbnail has a 'File Name' label and an input field with the placeholder text 'nsh1.png', 'nsh2.png', and 'nsh3.png' respectively. Below each input field, there's a 'Floor Number' label and an input field.

Building Name




File Name:

Floor Number:



File Name:

Floor Number:



File Name:

Floor Number:

Authoring Tool Page

The authoring tool page is the heart and soul of the floorplan creator. It is on this page that a user refines the data detected by the authoring tool and constructs their building. A user may switch floorplans using the floor plan carousel at the top of the page. Tool tips are available for each and every one of the tools in the toolbar and are invoked when a user hovers over a tool. The rest of the page is filled by the canvas on which the active floor is displayed. The user works on the canvas with the tools that we have created in order to construct their building.



Authoring Tool Testing Page

The authoring tool testing page was made for developers of the tool. Normally the authoring tool page requires a user to be actively logged in on our server and to have selected a building to edit from either the account page or floorplan upload page. On this page, however, a sample building that has been hardcoded is fed in so that connecting to the server is not required.

JAVASCRIPT FUNCTIONALITY

Global Functionality

A few select JavaScript files can be found throughout the NavPal Floorplan Creator. The first is `/js/bootstrap/bootstrap.min.js` which provides the core javascript functionality for bootstrap (the library upon which the site was built). The next is `js/jquery.js` which makes a number of scripting tasks easy to perform and cross platform compatible. Lastly the `js/image/spin.min.js` and `js/image/jquery.spin.js` files provide easily creatable loading spinners.

Authentication Page

When a user presses login or register, all required input forms are checked. If their input checks out an ajax request is sent the server for verification. If all goes well the browser is redirected.

Account Page

On this page, a user's buildings are immediately pulled from server and are listed in a table on the page. Ajax requests are used edit an existing building, remove a building or change their password from this page. A simple redirect to the Floor Uploads page allows for the creation of new buildings. When a user chooses to edit a building, the building's data is placed into local storage before the browser is redirected to the authoring tool page.

Floorplan Upload Page

On this page, a user uploads any number of floorplans from upload button. Each floorplan has a thumbnail dynamically created. Meanwhile, each floorplan is run through the preprocessor in seperate ajax request. When the server is done preprocessing a request, the loading spinner is removed from the floorplan thumbnail of the floorplan corresponding to the ajax request. When a user presses the done button, all required input fields are checked and a building object is generated from the preprocessed data. The building object is saved into local storage and the user is redirected to `authoringTool.html`

Authoring Tool Page

When the page is initialized, a loading spinner takes up the entire screen while the tool finishes loading. A building object is then read from local storage and the canvas is initialized from this object. The floorplan carousels are populated by the images of floorplans of the building. A seperate request is made to the server to get each floor plan. When all images are fetched and the canvas is initialized, the loading spinner is removed so that the user can use the authoring tool.

STYLESHEETS

Global Styles

A few select JavaScript files can be found throughout the NavPal Floorplan Creator. The first is `/css/bootstrap/bootstrap.min.js` which provides the styles for bootstrap (the library upon which the site was built). The next is `css/global-styles.css` which provides the core styles for the entire NavPal Floorplan Authoring Tool site. The file was adapted from the look and feel of the bootstrap homepage and provides a robust responsive layout to the site. One notable class within global-styles is the Jumbotron which simply represents a page header. There is one on every page of the tool except for the authoring tool. It has a gradient background.

Floorplan Upload Page

The floorplan upload page contains styles mostly to override the default styles found within bootstrap for the purpose of making the dynamic thumbnails created for each floorplan look pretty.

Authoring Tool Page

The authoring tool page was difficult to create because it combines responsive and non-responsive qualities on the same page. While the canvas is meant to resize with the page, the tool bar is meant to remain the same size. The floor plan carousels are responsive only in width, but not in height. To make this happen, a separate bootstrap stylesheet is used that does not provide responsive layout functionality. All responsiveness on this page is instead handled within `css/authoringTool.css`