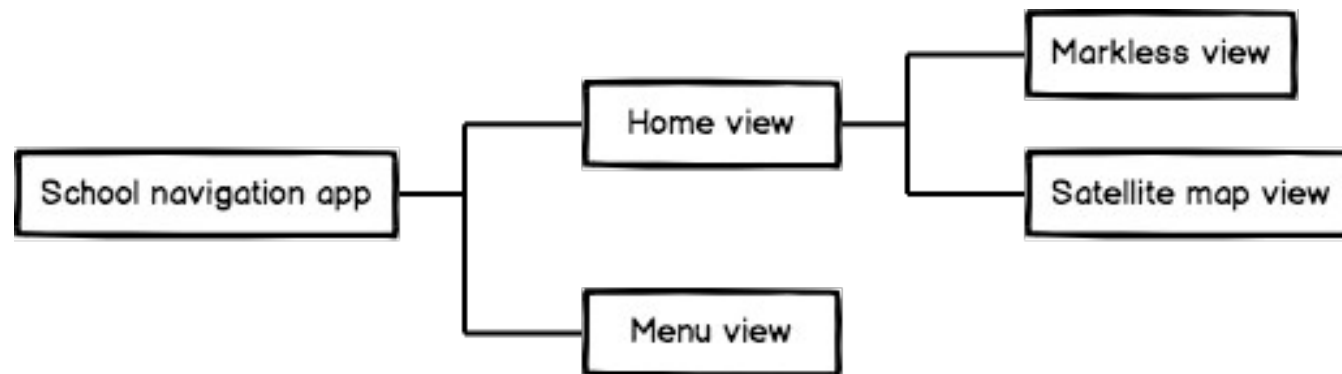


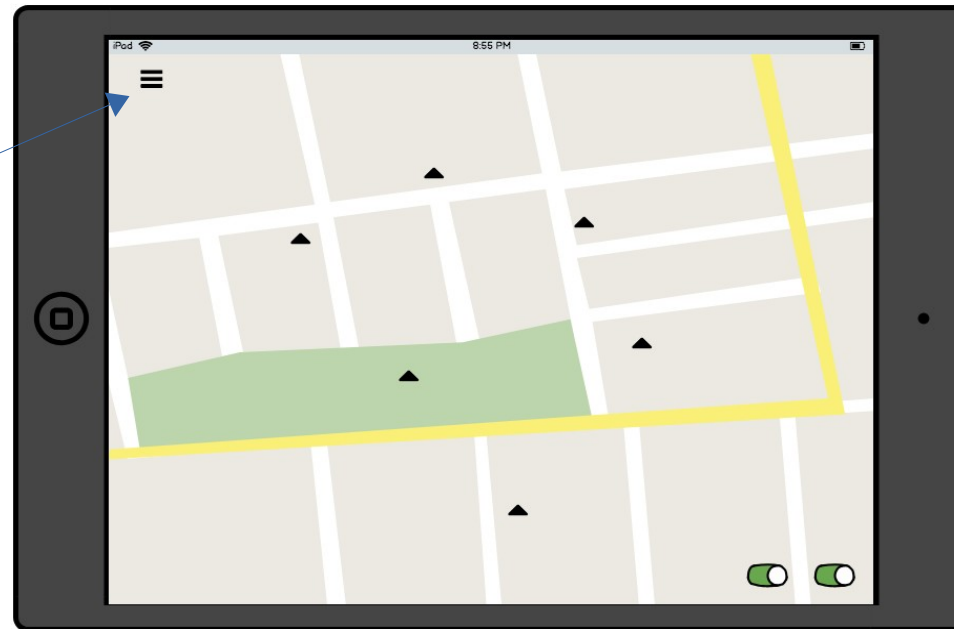
### Criterion D: Product design—Overall structure



## Internal structure

### Home view

Menu button which reveals sidebar with more information



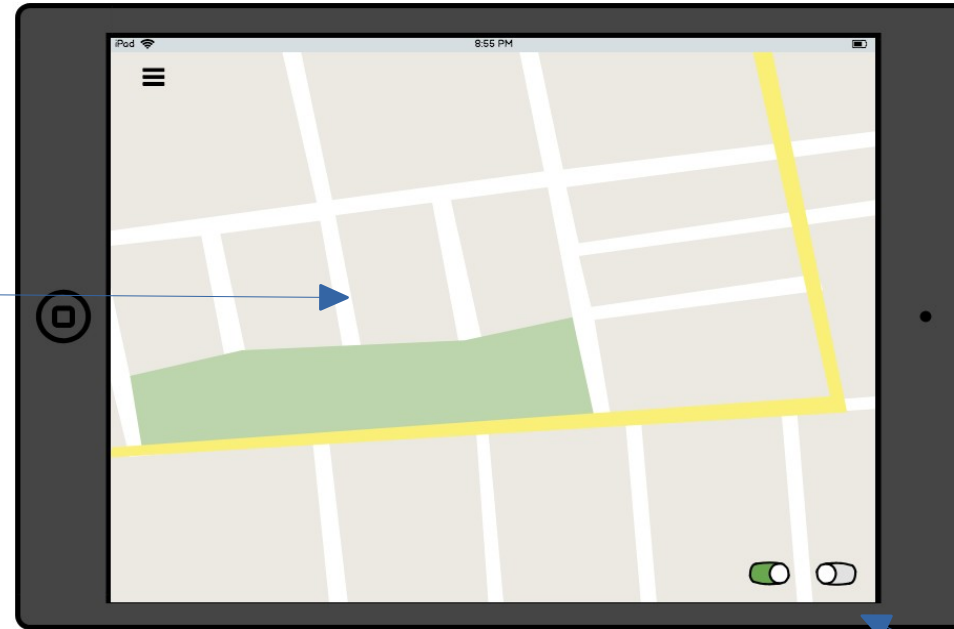
Marks denoting locations in the school along with their position and description

Switch that triggers the marks on and off

Switch that switches the map mode from the default map design to satellite

## Mark-less view

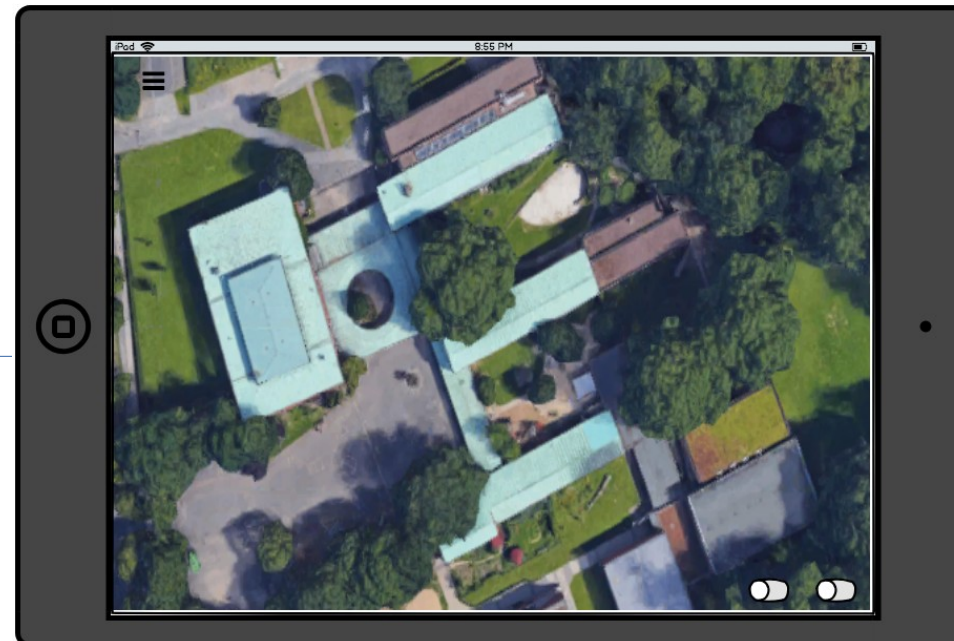
Mark-less view allows a declutter view for better orientation



Marks can be hidden or displayed with a convenience of a simple switch as well as the map view for better user-friendliness

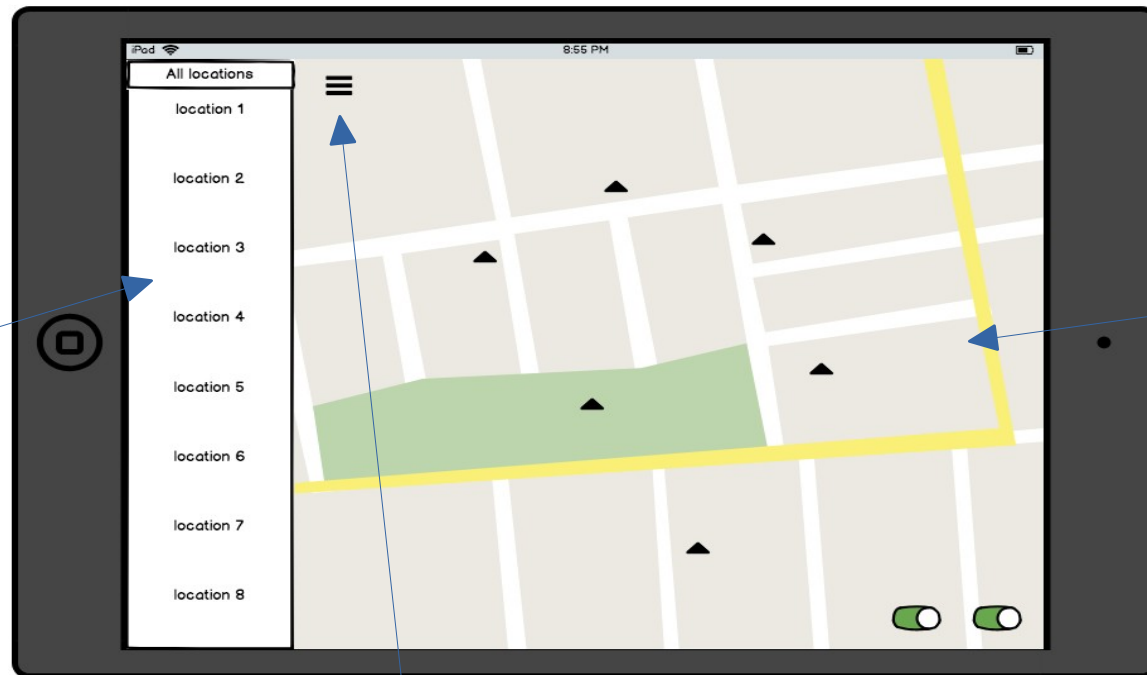
## Satellite map view

Satellite view can also be triggered to put position into perspective



## Menu view

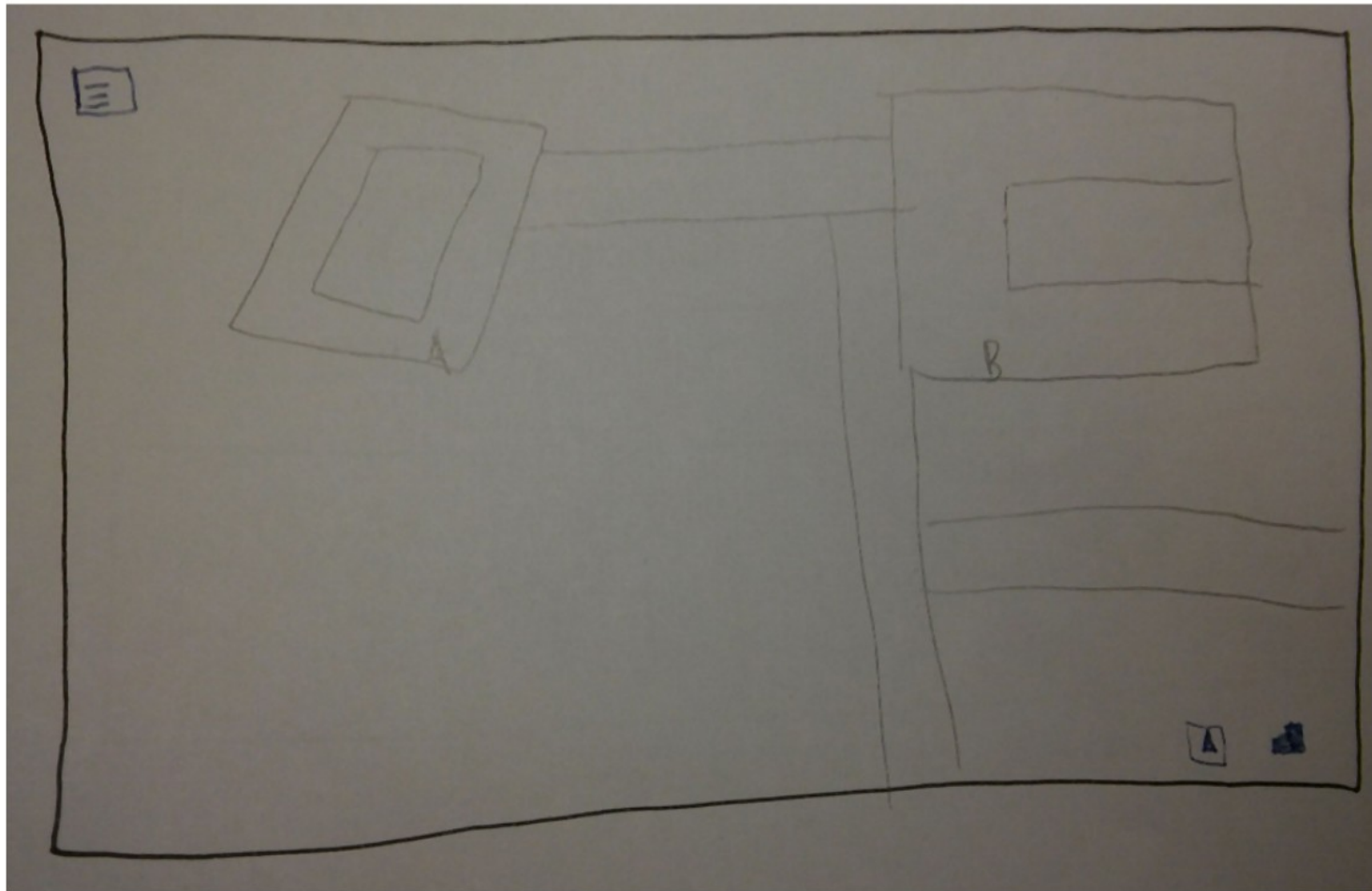
Menu shows all locations displayed on a sidebar for a general overview of all the places

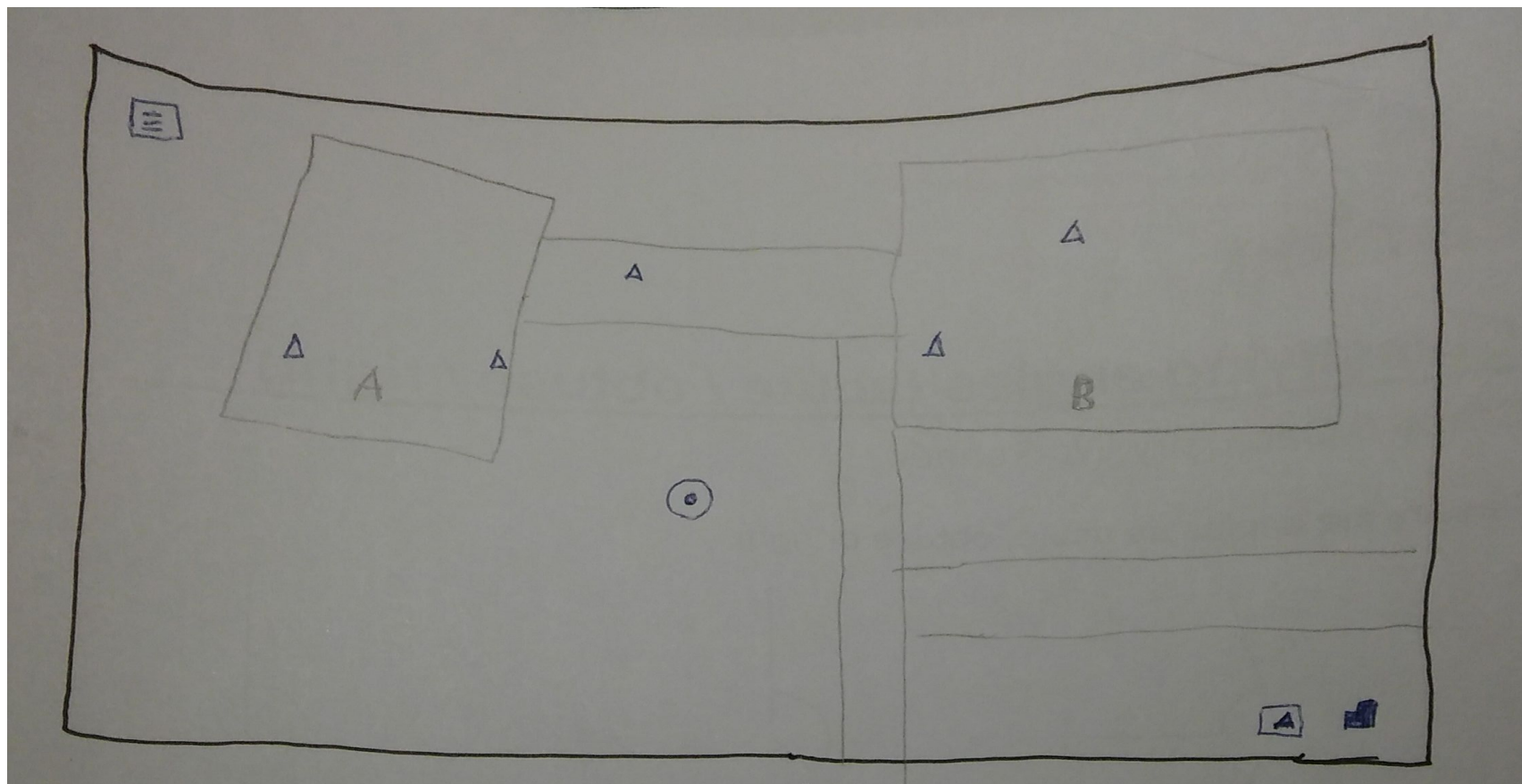


The entire view becomes smaller to make space for the sidebar but the map and all marks are still visible

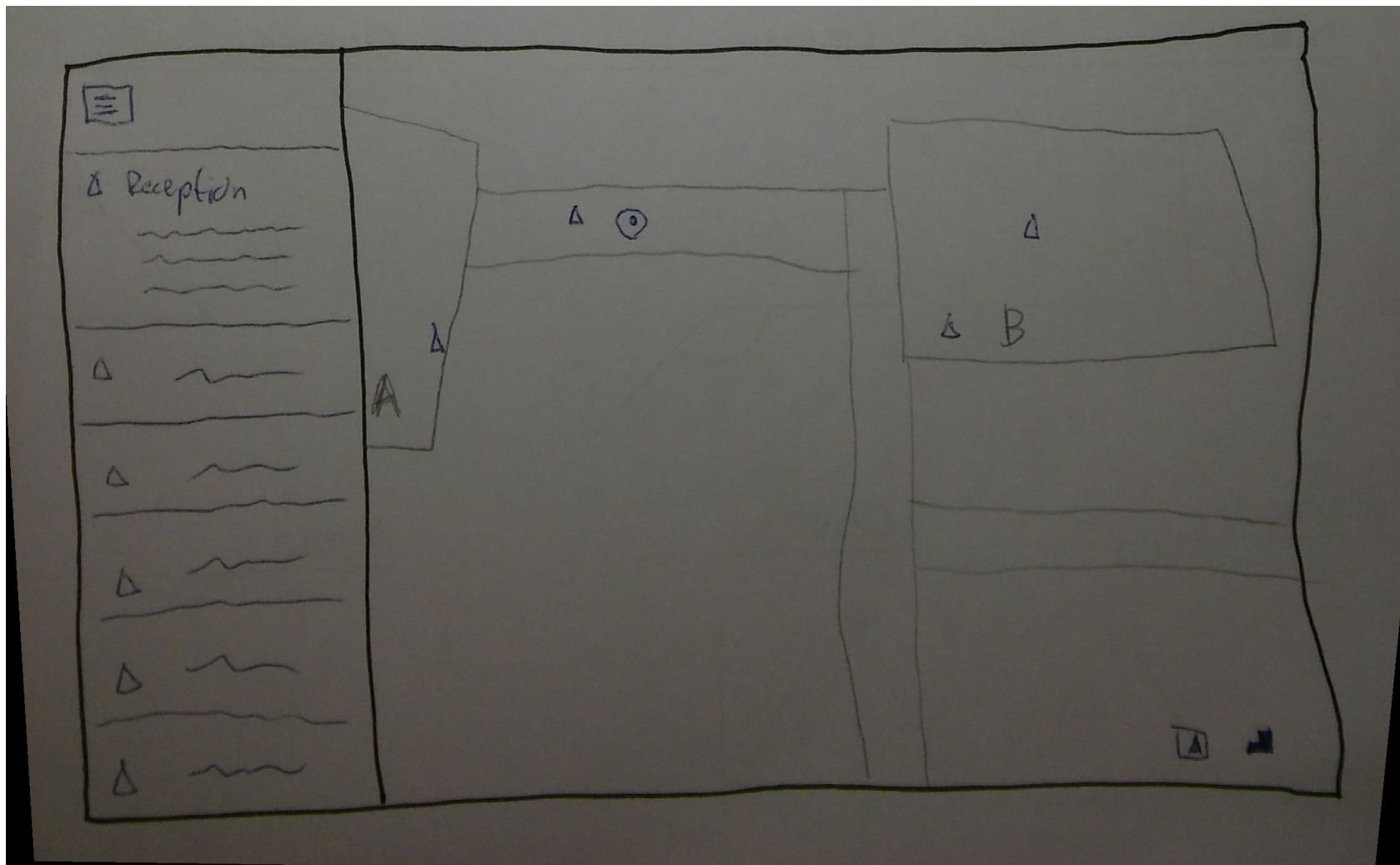
Button with a menu icon is placed in the left top corner for easy access

Various drafts before arriving to final structure above









### List of resources and techniques

Resources	Details
List of important locations on the school campus	A list of locations based on the consultation with the client.
Descriptions of each school location	A short paragraph description of the different parts of the school
Apple's swift developer resources website	Website with a multitude of resources for developing iOS applications provided by Apple ( <a href="https://developer.apple.com/swift/">https://developer.apple.com/swift/</a> ).

Techniques	Details
Arrays	Use of an array to store the text which will be pulled by the application from the JSON file in an organized form which can then be iterated over.
Subroutines, parameter passing	Numerous subroutines, dividing up the flow of the application into executable blocks of code. These can then be repeated throughout the application controller and run with specific parameters passed to it.
Loops, if-then, exit conditions	Conditional logic determining the working logic of the application i.e. whether or not to display the information based on user interaction.  Loops used to repeat a certain subroutine multiple times i.e. looping through a JSON file to load each of the objects within.



Object definitions	Swift supports the object-oriented programming paradigm which allows me to create a set of objects that define each of the marks on the map with all of the information included in it i.e. the location of the point, the text to be displayed, whether it is downstairs or not.
File handling	In order to allow my client to easily modify the locations on the map in the future, they are defined in an easily editable file. The JSON file has to be loaded into the application and parsed into swift readable format.
Graphical user interface (GUI)	Most applications require a GUI, including this one. It will be constructed through the swift IDE's GUI design interface. This includes buttons, menu bar, labels and all other elements such as the map itself.

## Test plan

Test item	Test data	Part of system tested	Expected outcome	Actual outcome	Comments	Ref in product
<b>Cover page testing – REQUIRED ELEMENT FOR CRITERION G</b>						
<b>Web pages load from the cover page in three different locations</b>	<b>File naming to ensure home page is called Index.htm</b>	<b>Links on cover page are relative</b>	<b>Loads as required from 3 different locations</b>	<b>All pages load properly in 3 different locations</b>	<b>Outcome as expected</b>	
<b>Product testing</b>						
Application can be run from the iPad	Error log	Integrity of the application	The application can be started without any errors	The application loads without any errors preventing the full functioning fo the application	The only errors presented in the logs are warnings about irrelevant configurations or potential layout issues.	
Application loads the background with the marks in correct places	The actual school layout to compare	GUI	The application displays the school locations correctly	The marks load simultaneously and in the correct places on the start of the application	Outcome as expected	
All of the information displays correctly	Compare the JSON file storing all information	GUI, functionality	Correct text is displayed	All information on marks matches the information in the file	Outcome as expected	

The application puts the iPads location on the map	Location	Functionality	Displays updated location as the user walks through the school	The location is displayed at all times although sometimes lacks in accuracy	There is a possibility that due to the number of access points across the school campus, the location can sometimes buffer or be imprecise.	
The application is easy to use	An ISHR student	GUI	The student can use all of the functionalities without any explanations.	The application was comfortably navigated by the student without issues	Outcome as expected	

### Agreement of client

I confirm that the requirement specification meets my needs and the designs above are appropriate for the creation of the product.

(Chris Woodcock)

