App Information

Name:	iBuildApp
Programming Language:	Swift 3.0
Programming Platform:	XCode 8.0
Deployment Target:	9.0
Recommended Screen Size for Demo:	iPhone 6S

Introduction and Purpose:

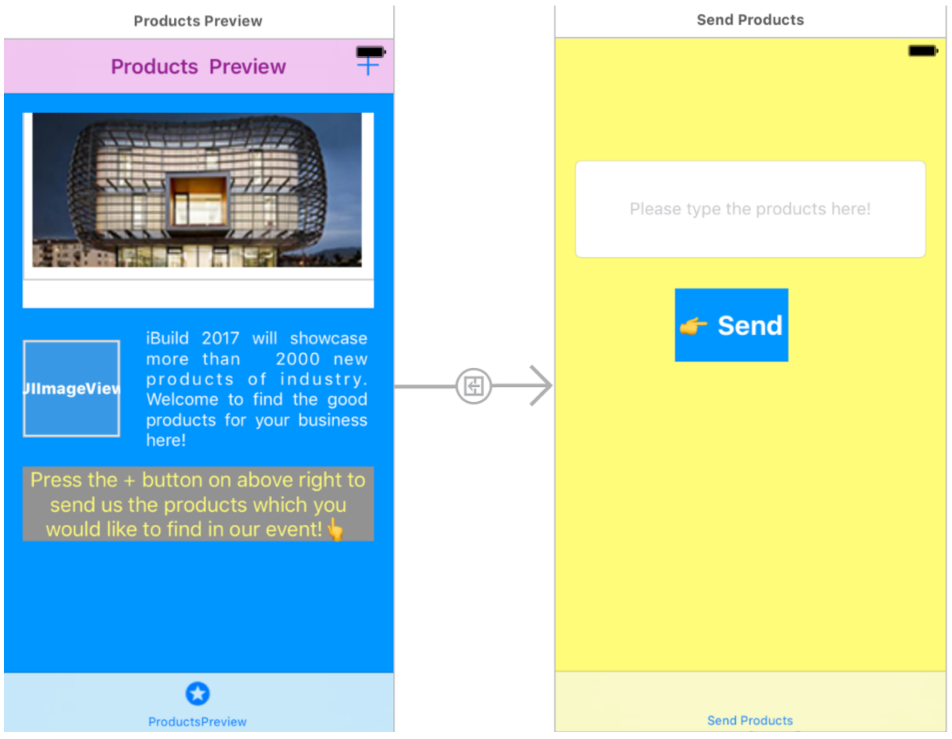
In this implementation, iBuildApp is improved a lot. Overall, 7 scenes planned are implemented out. And they are connected by functional navigation and segues. AutoLayout & Adaptive Layout are supported in this app by using the constraints system and size classes. In terms of design principals, Proximity and Clarity are applied to this design project. For the Cocoa Framework, Core Map is implemented here. In addition to MVC design pattern, another one of Delegation is also used. 'Core Data' is implemented for the persistence and for Rest based API, Alamofire of CocoaPods is used. Furthermore, this app chooses Animation as the advanced feature. Finally, in order to make the project robust, readable and code elegance, some Unit Tests have been written and all the Unit Tests pass.

In the following section, the report will explain some of the above implementations in detail.

Implementations

1. Examples of the Proximity and Clarity

From the screenshot below from the Main.storyboard, the following two Scenes can be as examples for the Proximity and Clarity design principles. Related contents are grouped by sections in a single scene. And the UI designs are intuitive and easy for users to use.



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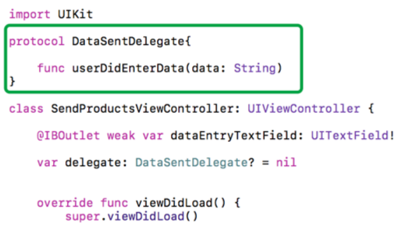
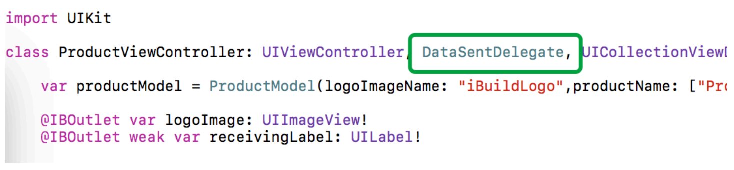
2. Delegation Design Pattern

A design pattern of delegation is implemented in this project in addition to MVC. Its main code is inside the Controller folder, SendProductsViewController class and ProductViewController class. Some parts of code are as follow:



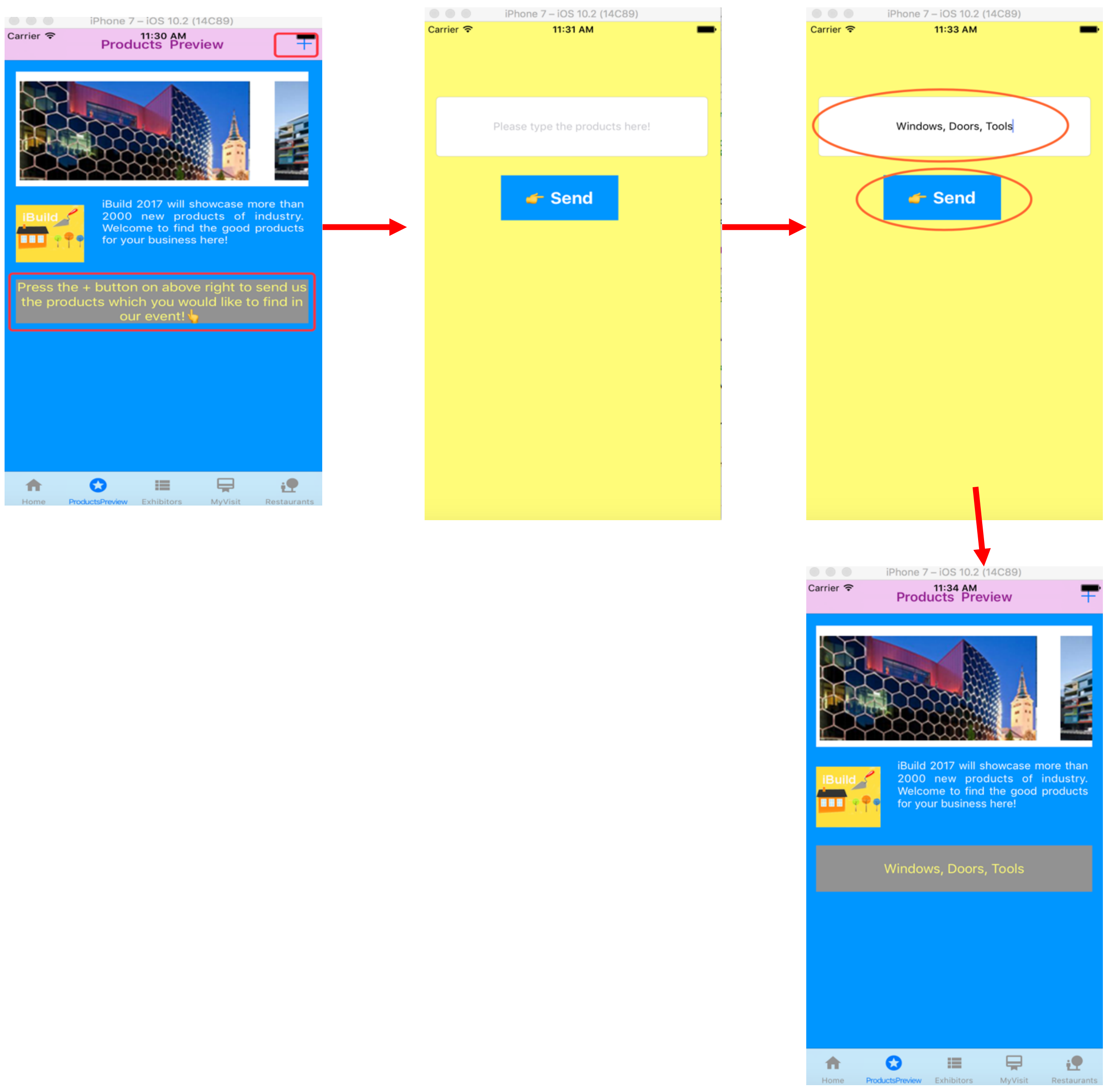
```
import UIKit
protocol DataSentDelegate{

    func userDidEnterData(data: String)
}
class SendProductsViewController: UIViewController {

    @IBOutlet weak var dataEntryTextField: UITextField!

    var delegate: DataSentDelegate? = nil


    override func viewDidLoad() {
        super.viewDidLoad()
```



```
import UIKit

class ProductViewController: UIViewController, DataSentDelegate, UICollectionViewl

    var productModel = ProductModel(logoImageName: "iBuildLogo",productName: ["Pr

    @IBOutlet var logoImage: UIImageView!
    @IBOutlet weak var receivingLabel: UILabel!
```

Execution Demo:

Users can press the 'ProductsPreview' Tag at the bottom of the app and enter the screen. Then, press the '+' button on the right of the top navigation bar to jump to its sub screen. After that, users can type message in to the text box with the hint and press the light blue 'Send' button. Finally, data of messages typed by the user will be passed back to the Products Preview screen with the help of Delegation Design Pattern.



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Please type the products here!

Windows, Doors, Tools

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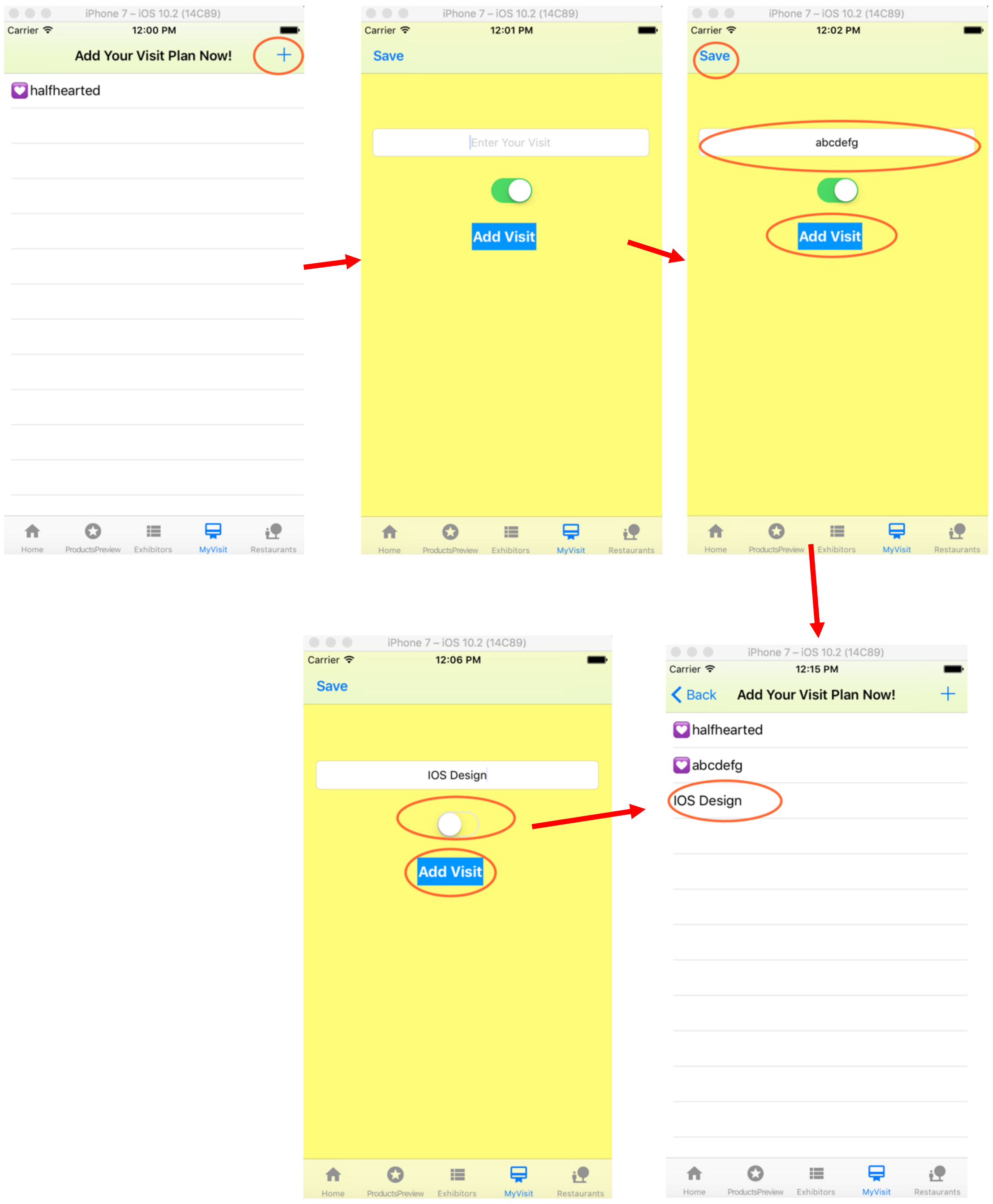
Windows, Doors, Tools

3. Core Data

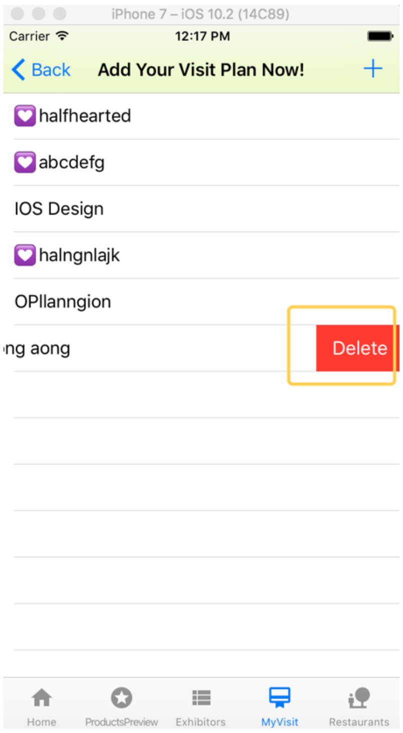
This part can be found in MyVisit Scene (MyVisitViewController.swift) and Add Visit Item View Controller Scene (AddVisitItemViewController.swift).

Execution Demo:

Users can press the ‘MyVisit’ Tag at the bottom of the app and enter the corresponding screen. Then, press the ‘+’ button on the right of the top navigation bar to jump to its sub screen. After that, users can type message in to the text box with the hint and press the light blue ‘Add Visit’ button. data of messages typed by the user will be passed back to MyVisit screen. There are two scenarios in this step. One is when the user turns on the switch button, the message can be passed with a white heart symbol for highlighting. Alternatively, if the user turns off the switch button, message will be without the symbol.



In this part, users can also delete useless data by clicking on the row of the data, pushing it to left and choosing the red ‘Delete’ button. After executing this, data will be removed from the local persistence.


iPhone 7 – iOS 10.2 (14C89)

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Back Add Your Visit Plan Now! +

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IOS Design

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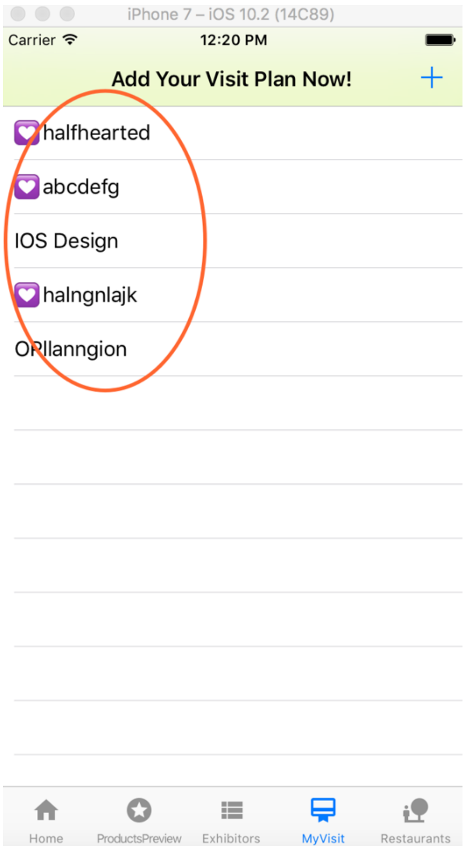
Next time, when the user restarts the app, data stored before will show in the screen again, which means data are stored successfully with the help of ‘Core Data’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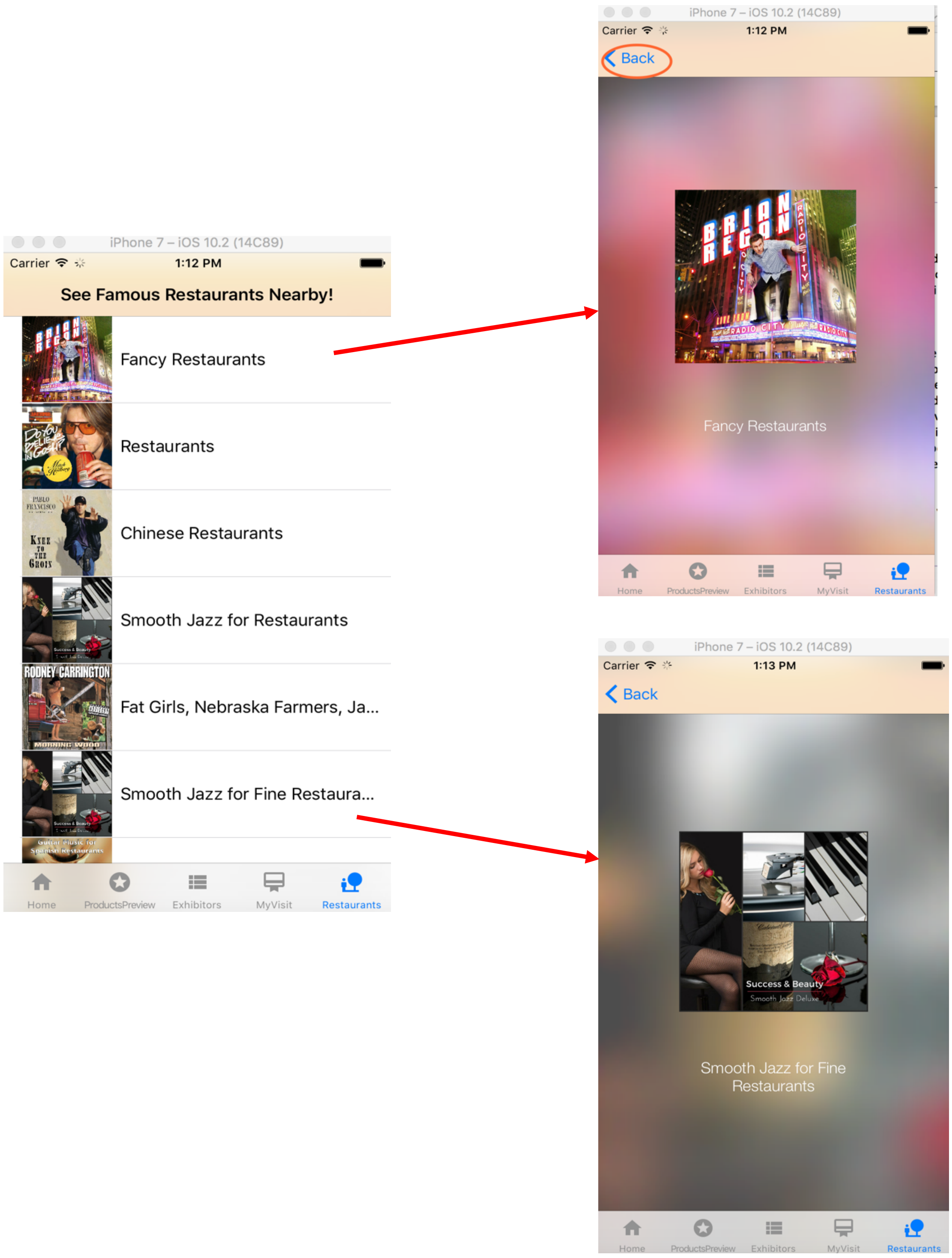
4. Rest Based API

This part mainly implements the Alamofire of CocoaPods. Views are at Restaurant Scene (RestaurantTableViewController.swift) and Restaurant Detail Scene (RestaurantDetail.swift).

Execution Demo:

Users can press the 'Restaurants' Tag at the bottom of the app and enter the corresponding screen. With the support of the API key from internet and the Alamofire, remote data from internet - images and names of restaurants which meet the search request of the developer will be accessed by the app and displayed on the screen in a table view. When users click on the one they feel interested in, a detail screen will pop up to show a bigger image and the detail name. By clicking the 'Back' button, users can return to the main table view to choose other items.

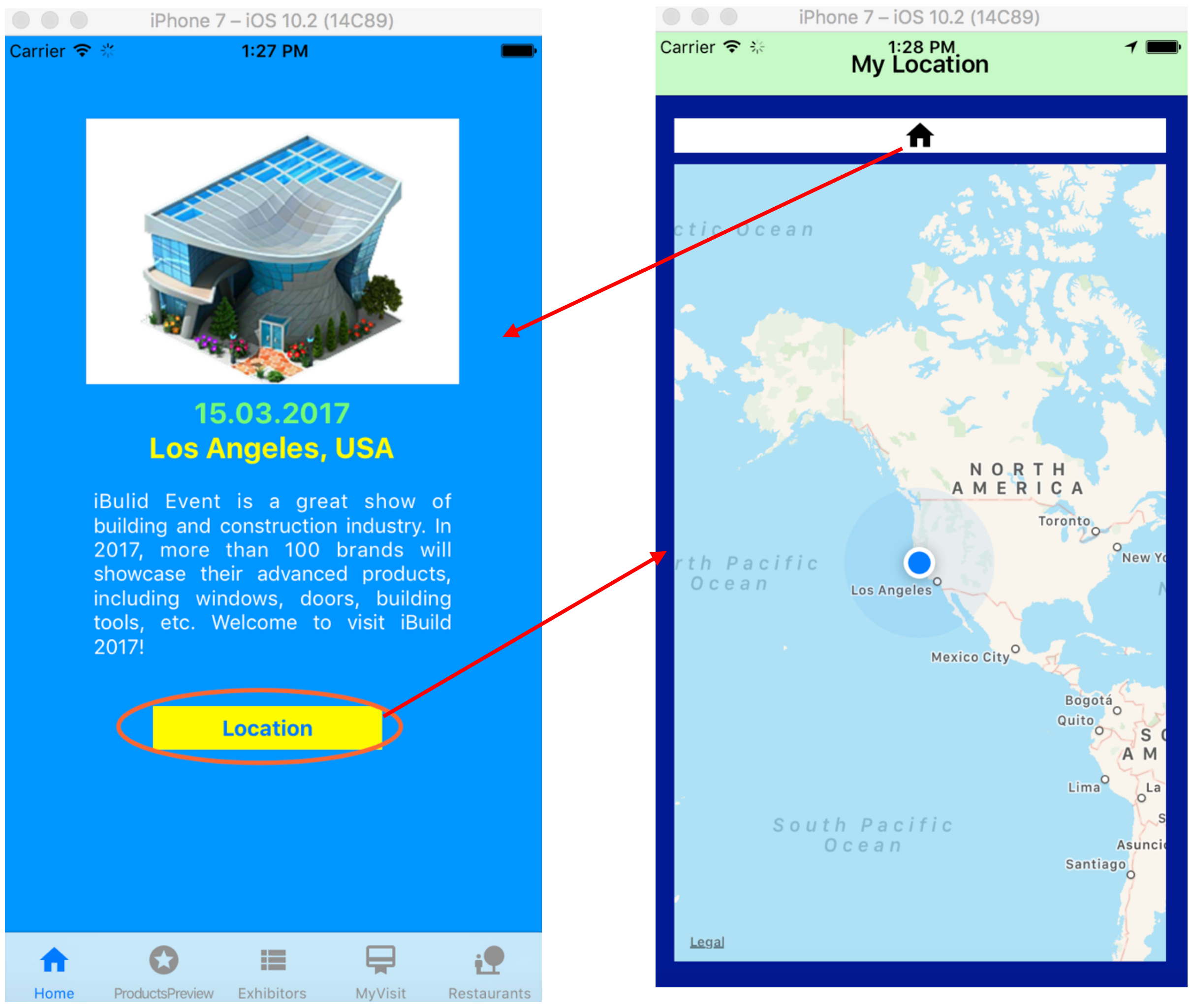


5. Cocoa Framework

‘Home Scene’ (HomeViewController.swift) and ‘My Location Scene’ are views for the implementation of Cocoa Framework.

Execution Demo:

When users start this app, they will see the home page view first. When they click the light yellow button of ‘Location’, the screen of ‘My Location’ will pop up and the location will be shown on the map (coordinate of the location is set by the developer in the programming code). When the users click on the home symbol on the top, they can return back to the home screen.



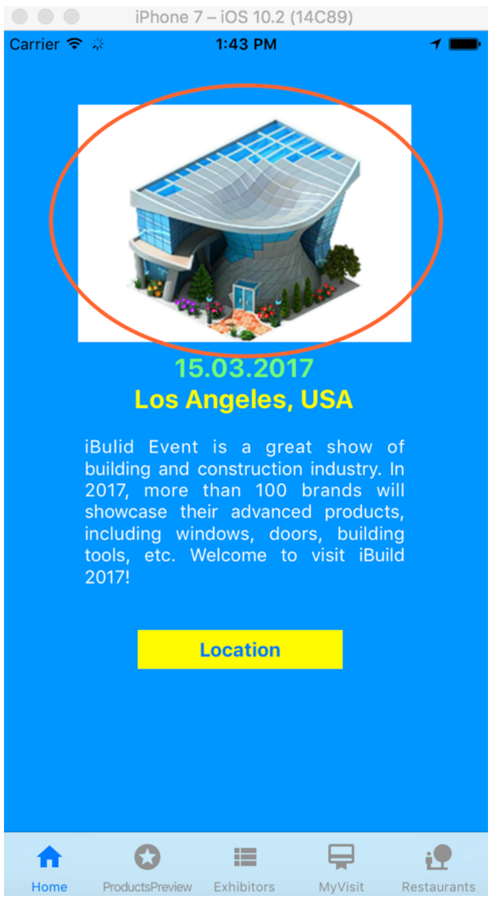
iBulid Event is a great show of building and construction industry. In 2017, more than 100 brands will showcase their advanced products, including windows, doors, building tools, etc. Welcome to visit iBuild 2017!

6 Advanced Feature: Animation

In other to make this app more difference, animation is applied in this app and 3 screens have this feature. They are 'Home Scene' (HomeViewController.swift), 'Products Preview Scene' (ProductViewController.swift) and 'Exhibitors Detail Scene' (ExhibitorDetailCollectionViewController.swift) respectively.

Execution Demo:

Images in the Home screen and ProductsPreview screen will pop up dynamically with the animation effect when the user enter these screens for the first time.



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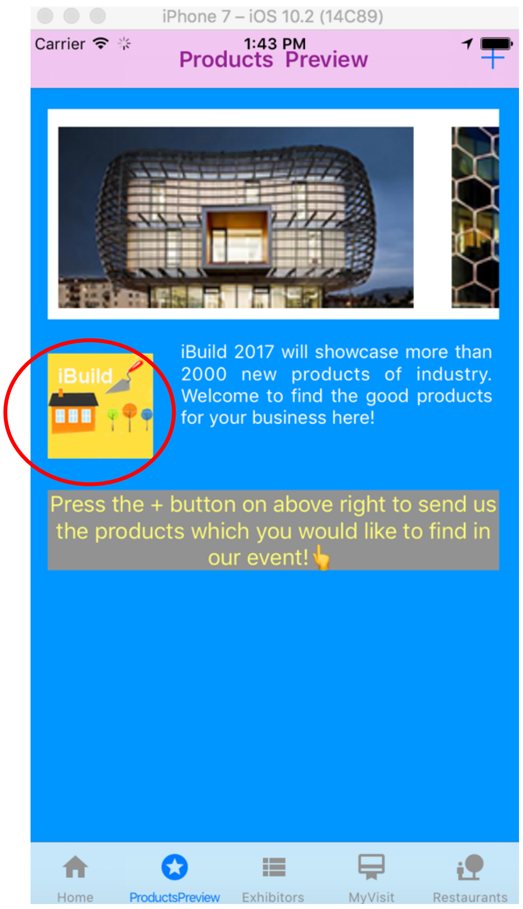

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Products Preview

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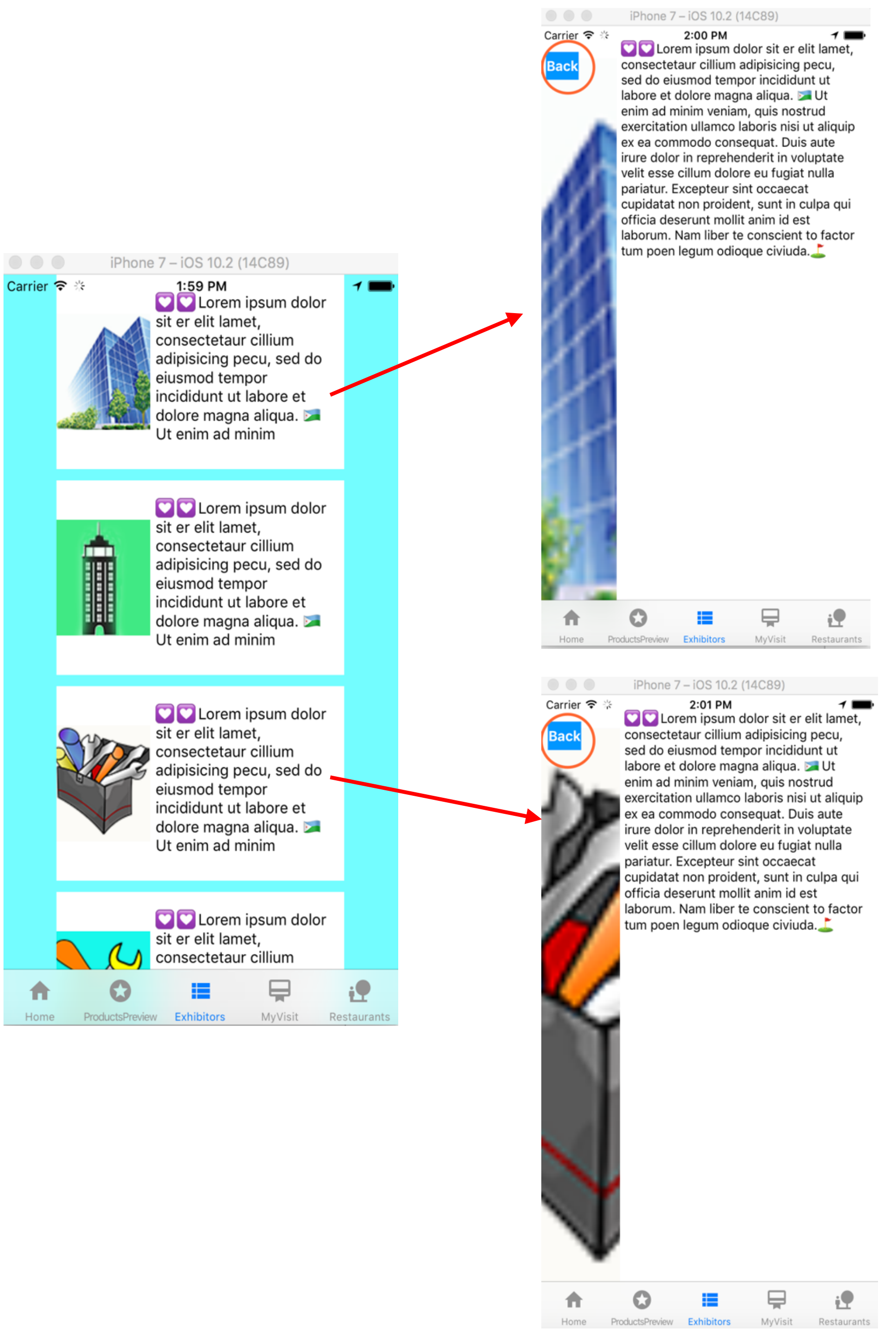
When the users press the ‘Exhibitors’ Tag to enter the screen, detail message of each exhibitor is not fully show on the collection view screen. Users can view the full detail message by clicking on each cell of the exhibitors to pop up the detail screen with the support of Animation feature. Also, they can click the light ‘Blue’ button on the top left to return to the main screen.



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7. Scenes making use of size classes are: Home Scene, Restaurant Scene, Restaurant Detail Scene, My Location Scene, Products Preview Scene, Send Products Scene, MyVisit Scene, Add Visit Item View Controller Scene, Exhibitors Detail Scene.

Reference:
Some parts of codes are reference from internet.