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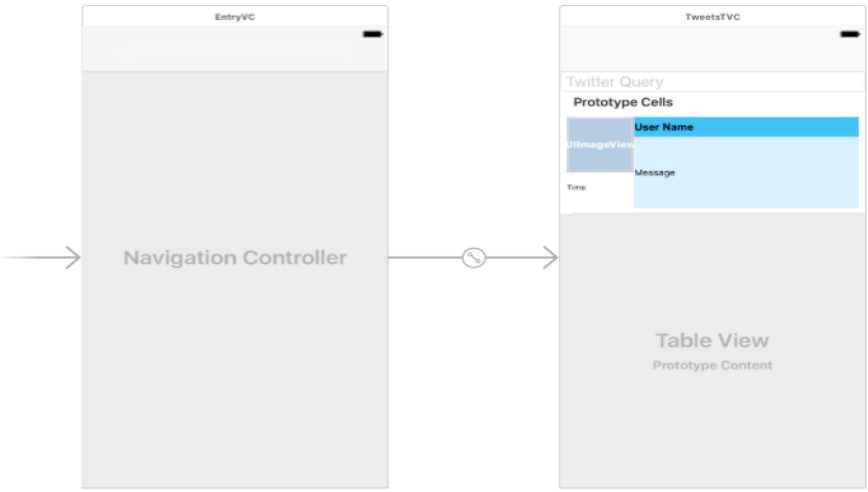
REPORT – TwitterTags
Part 2

OBJECTIVE:

Build an App to retrieve tweets from Twitter for a given hashtag and display the results in a tableview with custom cell view and Enhance with navigation features to explore tweet's mention.

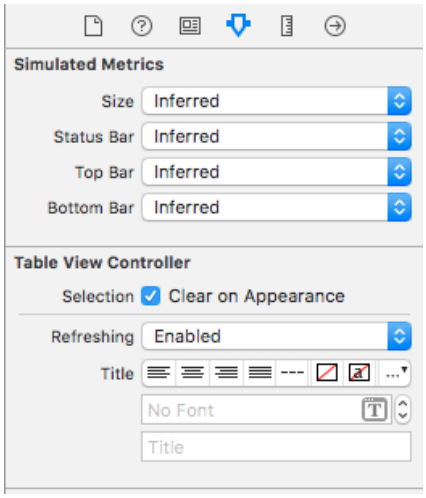
Step 1:

A table view is created with dynamic cells which have image view and 3 labels to display time, title and message respectively. The table view is embed in a navigation controller.

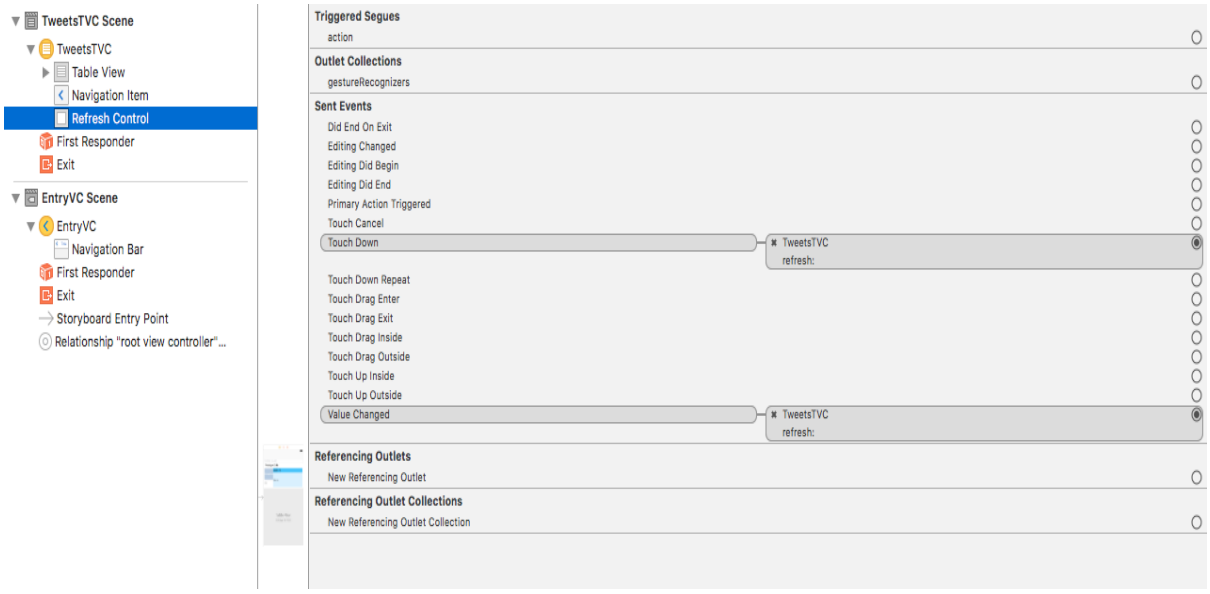


Step 2:

Add refresh action method where we fetch tweets. To add refresh action method, select the TweetsTVC view controller -> Enable Refreshing attributed in attributes inspector.



To connect the action method of refresh() to TweetsTVC class, select the Refresh control on document outline window, hold the control key and drag to TweetsTVC class.



Step 3:

Create IBOutlet for imageview and three labels on Table View to CustomCell.

Step 4:

Core Functions and its functionalities.

- ***"RequestingTweets( ) function"*** checks whether the request for the tweets is for new tag or existing one and return the tweets in regard to condition.

  Case 1:

  If the request is to search for new entered new tag, convenience initializer method of class ***"TwitterRequest: NSObject"*** in Twitter API is called.

```
//calls the convenience initializer method of class "TwitterRequest: NSObject" in Twitter API
return TwitterRequest(search: twitterQueryText!, count: 5)
```

Case 2:

If the request is to fetch new tweets of existing tag (means that the user refreshes the table). The "***RequestForNewer"*** is property is called in twitter API via

TweetsTVC.SWIFT file:

```
//generating request to get new tweets of previous tag
return OldTweets!.requestForNewer!
```

TwitterAPI.SWIFT file:

```
// Create request for newer tweets
open var requestForNewer: TwitterRequest? {
    if max_id == nil {
        if parameters[TwitterAPI.Request.sinceID] != nil {
            return self
        }
    } else {
        return modifiedRequest(parametersToChange: [TwitterAPI.Request.sinceID : max_id!], clearCount: true)
    }
    return nil
}
```

- ***Request( ) function*** request the tweets and add the tweets to the in table.

TweetsTVC.SWIFT file:

```
@IBAction func refresh(_ sender: UIRefreshControl?) {

    let tweetsRequestHandler = requestingTweets()

    //fetchTweets returns tweets in "incomming Tweets"
    tweetsRequestHandler.fetchTweets{(incommingTweets) -> Void in
        if incommingTweets.count > 0
        {
            self.OldTweets = tweetsRequestHandler
            self.tweets.insert(incommingTweets, at: 0)
            self.tableView.reloadData()
        }

        //endRefreshing methond should call after begin refreshing to return control to its default
            state
        self.refreshControl?.endRefreshing()
    }
}
```

Step 5:

When ever the user enter the tag to search the *"**textFieldShouldReturn function"*** is called to set the search tag to value of text box

TweetsTVC.SWIFT file:

```
func textFieldShouldReturn(_ textField: UITextField) -> Bool {

    //relinquish delegate status as first responder in its windo
    textField.resignFirstResponder()

    //textField contains name of the new tag
    twitterQueryText=textField.text
    return true
}
```

and the control goes to "***didSet"*** of twitterquery which call the "***refreshing()"*** function(refresh the table) followed by "***refresh()"*** and ***"requestingTweets( )***". The control finally goes back to "***refresh()"*** function to load new tweets in table.

TweetsTVC.SWIFT file:

```
var twitterQueryText: String? = "#ucd"
    {

    didSet {

        OldTweets = nil
        //displaying the new tag entered by user
        twitterQueryTextField?.text = twitterQueryText
        //reloading the tableview
        tableView.reloadData()

        refreshing()
    }
}


func requestingTweets() -> TwitterRequest
{

    //checking whether there is tweet request made for new tags or existing tags
    guard (OldTweets != nil) else {

        //calls the convenience initializer method of class "TwitterRequest: NSObject" in Twitter API
        return TwitterRequest(search: twitterQueryText!, count: 5)
    }

    //generating request to get new tweets of previous tag
    return OldTweets!.requestForNewer!
}

func refreshing()
{
    //var requestingTweets: TwitterRequest?
    refreshControl?.backgroundColor = UIColor.blue
    refreshControl?.tintColor = UIColor.white
    //refresh the table
    refreshControl?.beginRefreshing()
    refresh(refreshControl)
}

  @IBAction func refresh(_ sender: UIRefreshControl?) {

    let tweetsRequestHandler = requestingTweets()

    //fetchTweets returns tweets in "incomming Tweets"
    tweetsRequestHandler.fetchTweets{(incommingTweets) -> Void in
        if incommingTweets.count > 0
        {
            self.OldTweets = tweetsRequestHandler
            self.tweets.insert(incommingTweets, at: 0)
            self.tableView.reloadData()
        }

        //endRefreshing methond should call after begin refreshing to return control to its default
            state
        self.refreshControl?.endRefreshing()
    }
}
```

Step 6:

Whenever the user refresh the table to fetch new tweets of existing tags. The ***refresh() function*** is called followed by ***requestingTweets().***

Step 7:

Date of tweets, User ID, Tweets and Image of people is retrieved from **TwitterAPI file.SWIFT** and these values are assigned to corresponding Objects in Custom Cell.

CustomCELL.SWIFT file:

```
func refreshCell()
{
    //date formatting
    let formatter = DateFormatter()
    formatter.dateFormat = "MMM d, h:mm a"
    var d:Date
    d=twitter!.created
    let dd=formatter.string(from: d)
    tweet_day_time?.text="\(dd)"

    user_screenname?.text="\(twitter!.user)"
    tweet_content?.text = twitter!.text

    //get the user image from url "profileImageURL" and set it inside UIImageView "user_image"
    let profile_image=twitter?.user.profileImageURL
    if let image = NSData (contentsOf: profile_image!)
    {
        user_image?.image=UIImage(data: image as Data)
    }
}
```

Step 8:

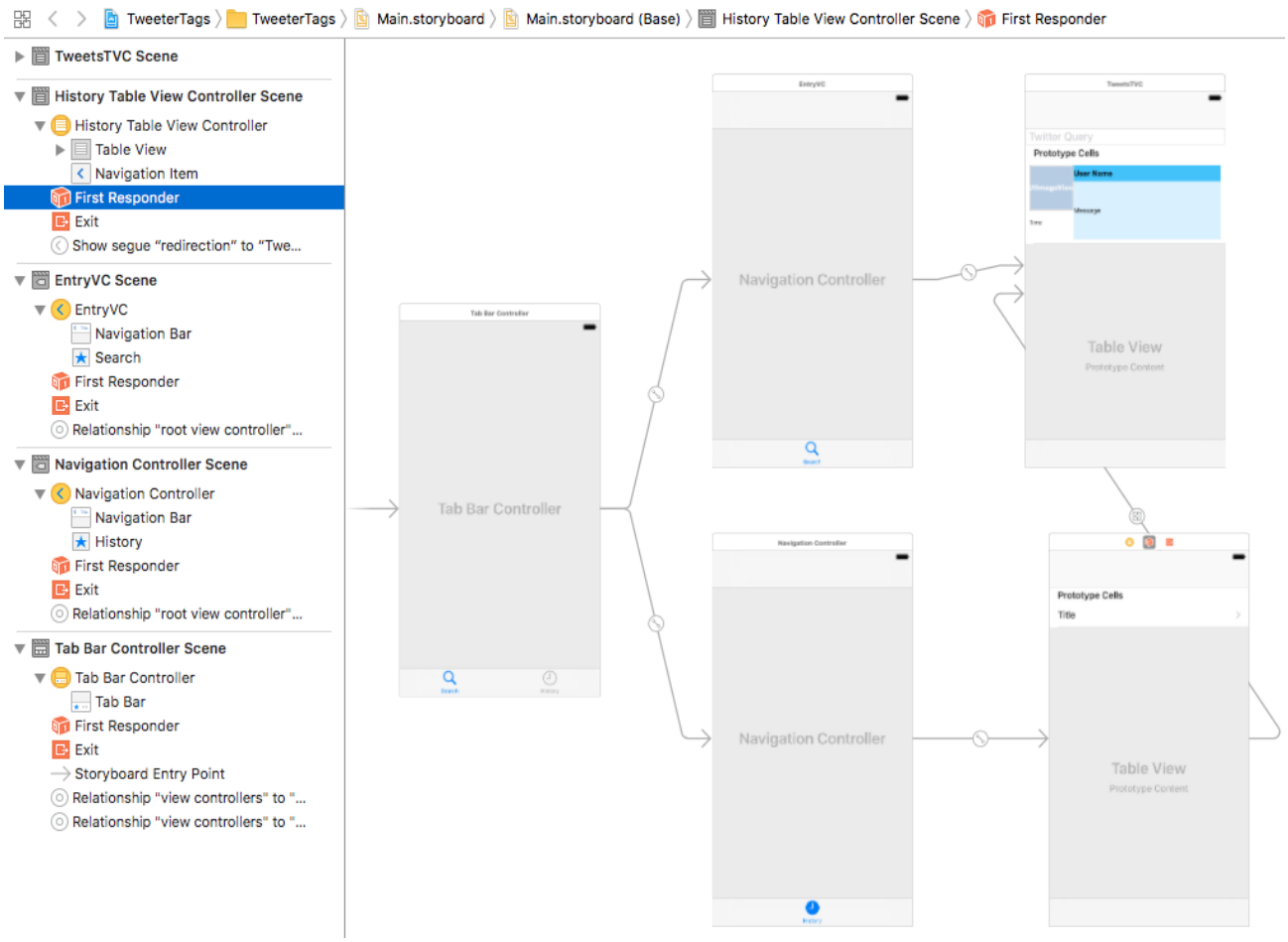
By converting the value of "**text property"** of the class TwitterTweet in Twitter API file to Mutable Attributed String, it is possible to highlight the tweet's mentions containing in it to different color.

```
//converting the value of "text property" of the class TwitterTweet in Twitter API file to Mutable Attributed String.
let colortweet = NSMutableAttributedString(string: text)

func replace(example:[TwitterMention],color: UIColor)
{
    for substring in example
    {
        //addAttribute changes the font style and color of substring containing in colortweet.

        //setting the custom font style for substring
        colortweet.addAttribute(NSFontAttributeName, value: UIFont(name: "Arial", size: 12)!, range: substring.nsrange)

        //setting the custom color for substring
        colortweet.addAttribute(NSForegroundColorAttributeName, value: color, range: substring.nsrange)
    }
}
replace(example: twitter!.hashtags,color: UIColor.red )
replace(example: twitter!.urls,color: UIColor.blue )
replace(example: twitter!.userMentions,color: UIColor.purple )
//assigining the update value of copy of twitter!.text
tweet_content?.attributedText = colortweet
```

Step 9:

To Show the twitter search result in one tab and search in another tab in Tab Bar Controller. Add a relationship from above Navigation Controller to the first tab of Tab Bar Controller and a relationship from new Table view to second tab of Tab Bar controller.

Drag a label and place it in cell of tableviewcontroller to display tags history.



Step 10:

The search tags are stored in User defaults under the key name "recenttags" whenever the user search for new tags in textbox.

TweetsTVC.SWIFT file:

```
//creating user defaults
if let enteredtags = UserDefaults.standard.array(forKey: "recenttags"){
    var tweets_tag_history = enteredtags as! [String]
    //appending the tags in string array
    tweets_tag_history.append(twitterQueryTextField.text!)
    //storing the tags in userdefaults
    UserDefaults.standard.set(tweets_tag_history, forKey: "recenttags")
    UserDefaults.standard.synchronize()
}
else{
    UserDefaults.standard.set([twitterQueryTextField.text!], forKey: "recenttags")
}
```

Step 11:

Create class "HistoryTableViewController" subclass of UITableViewController. Create a string array called "recent_tags_array" which hold the user defaults value.

```
recent_tags_array = UserDefaults.standard.array(forKey: "recenttags") as! [String]
```

Step 12:

Set the value of label "textLabel" to "recent_tags_array" and customize the cell.

HistoryTableViewController.SWIFT file:

```
override func tableView(_ tableView: UITableView, cellForRowAt indexPath: IndexPath) ->
    UITableViewCell {
    let cell = tableView.dequeueReusableCell(withIdentifier: "history", for: indexPath)
    // Configure the cell...
    cell.textLabel?.text = recent_tags_array[indexPath.row]
    return cell
}
```

Step 13:

Enable the **"Refresh Control"** for historyTableview so that newly entered tags will be appended to the history table view if you refresh the tableview.

HistoryTableViewController.SWIFT file:

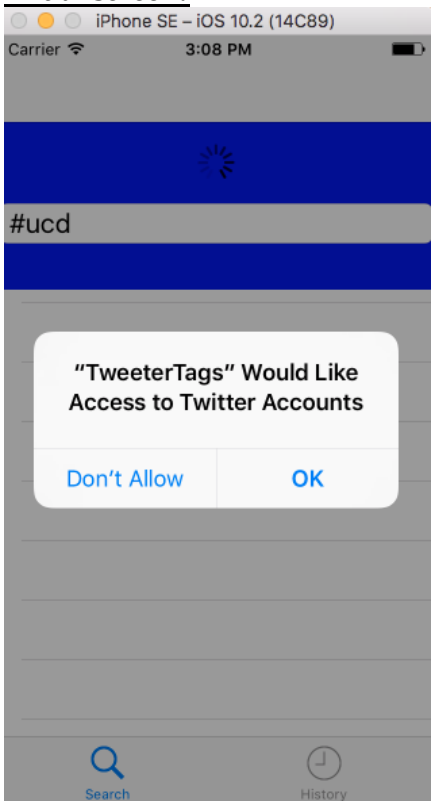
```
@IBAction func historyRefresh(_ sender: UIRefreshControl) {
    recent_tags_array = UserDefaults.standard.array(forKey: "recenttags")
        as! [String]

    tableView.reloadData()
    self.refreshControl?.endRefreshing()

}
```

Step 14:

Build and Run the application.

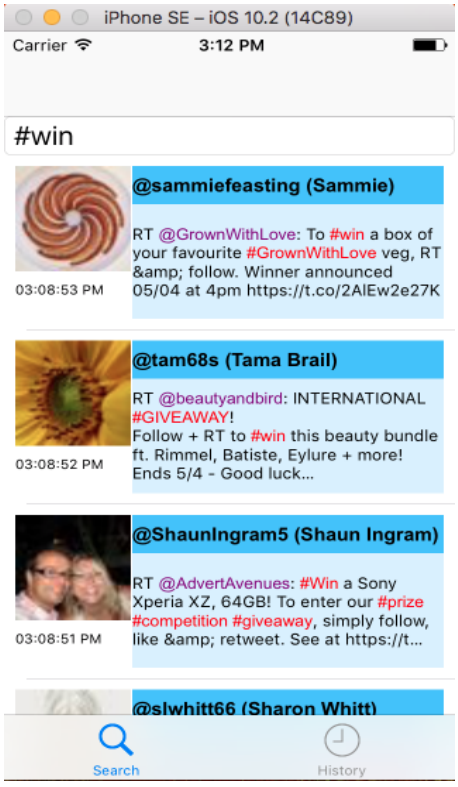
SCREEN SHOTS:

Initial screen:

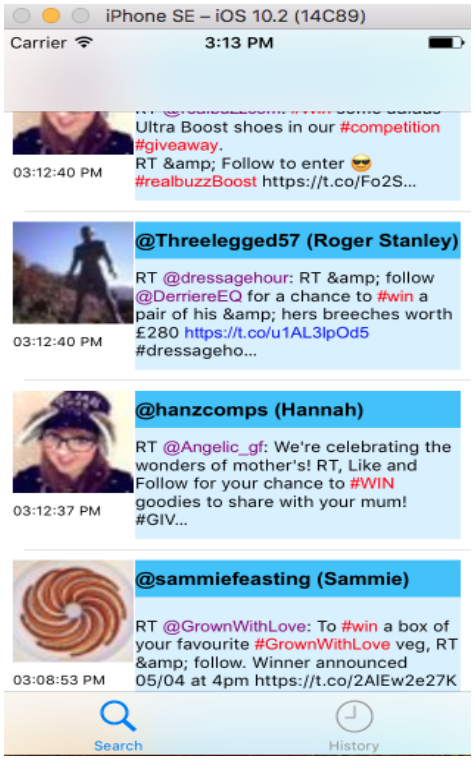


#win HashTag Screen:

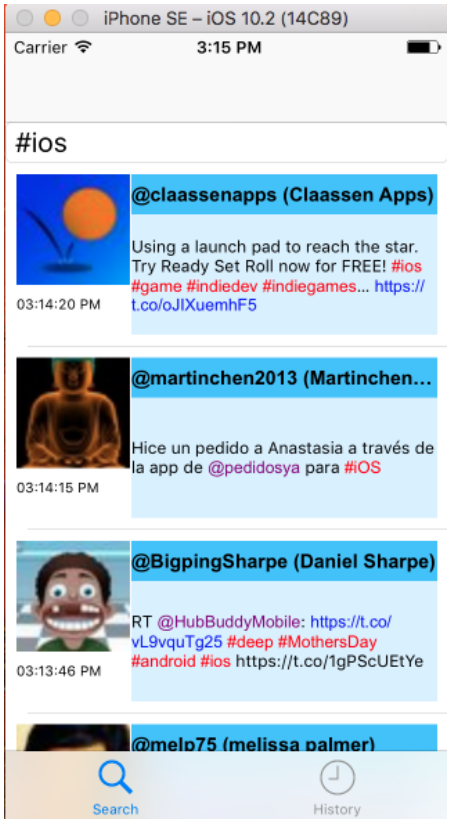
(note: response time to fetch new tweets might take time)



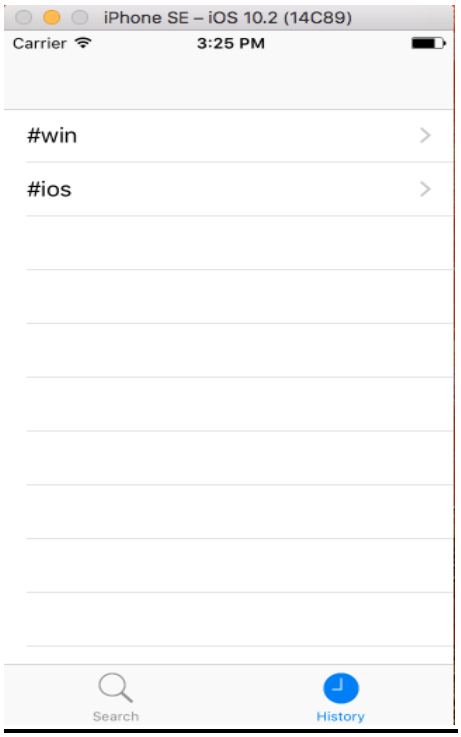
Screen after refreshing the table:



#ios HashTag Screen:



History tab Screen



Search screen after select "win tag" from History Screen