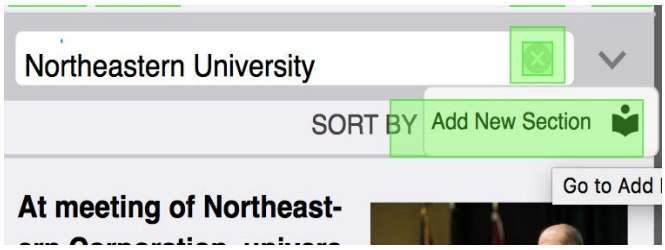
# Skeleton plane

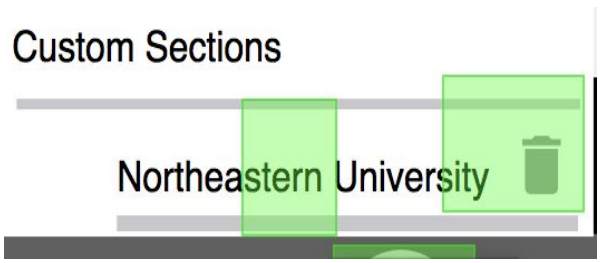
## Interface Design

Interface design is about selecting the right interface elements for the task the user is trying to complete. Now these tasks, may stretch across different screens each having a different set of elements. How a task is broken down into several elements is what the interface design is about.

1. On first clicking on the NY times iOS App, the selected navigation bar is on the Top Stories, as that is the first thing we want the user to see.


2. The systems remembers what custom sections you have added to the news sections and also gives you the ability to delete it.

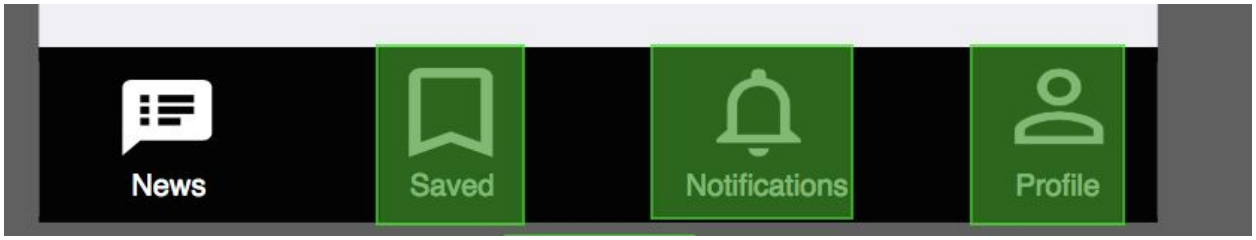


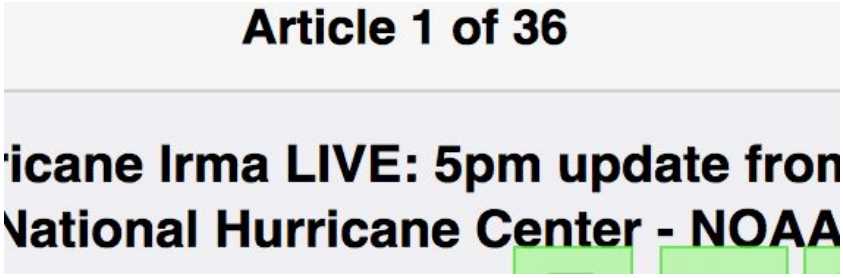
## Navigation Design

Navigation Design is about being able to navigate from one page to another in the shortest time when they are related.Our system uses multiple navigation systems. Following are the ones we have used in our app:

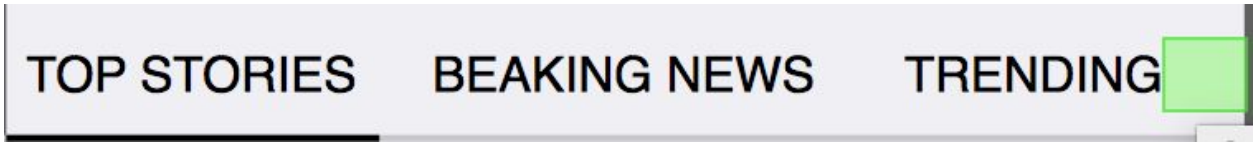
1. Global navigation - The footer and the hamburger in the header bar serves as global navigation to the entire app. Using the hamburger we can move to all sections of the news, we can choose to sign in or register. Using the footer we can move to the main news page, the saved articles, notification and Profile settings.




2. Local navigation - Swiping either left or right on the title of an article takes you to the next article which serves as local navigation in our app.




Swiping right takes you to more categories like “International”, “US”, “Politics”.

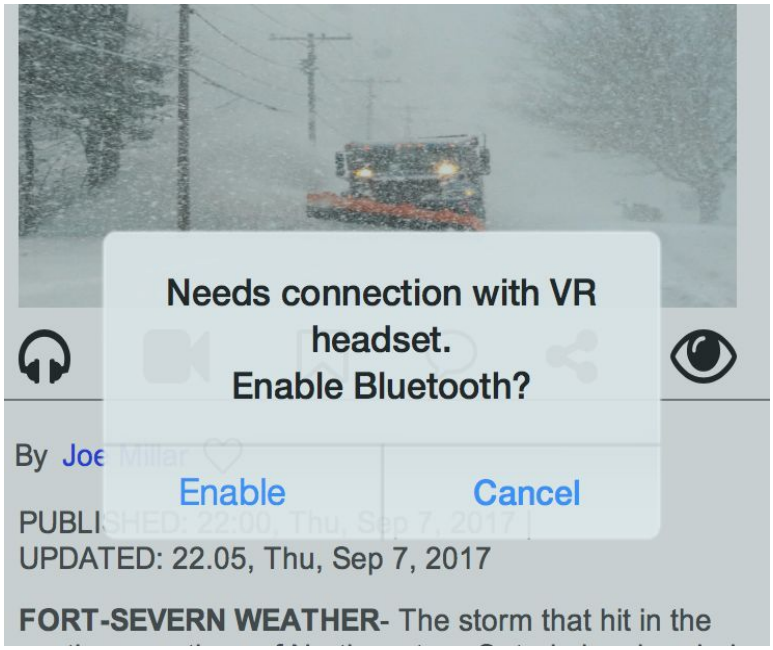



You can further comment on each article, share it, Connect it to VR, or check it out in AR. All these come under local navigation for our app.

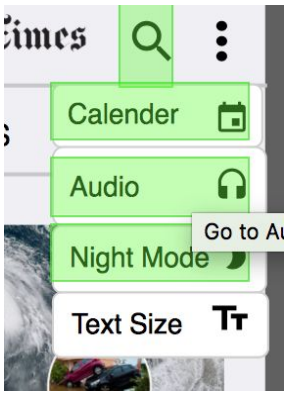
## Information Design

1. Icons - The '<' icon to convey to go back to the earlier page. The headphones sign is used for audio.
2. Errors messages while login


3. Confirmation messages




4. Three icons symbol grouping tasks not frequently used



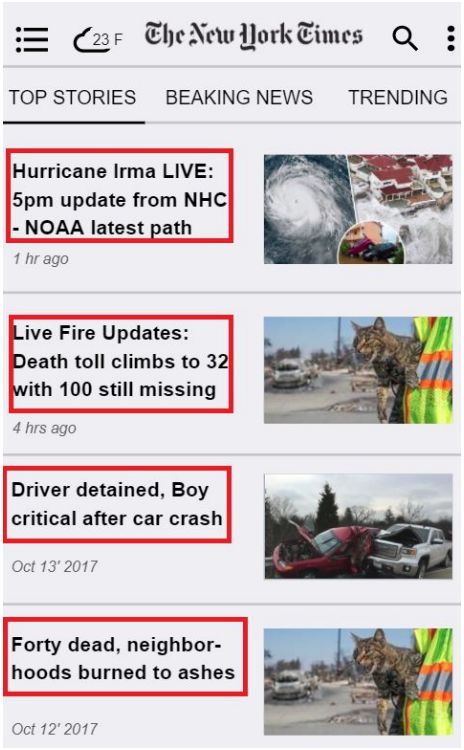
# Surface plane

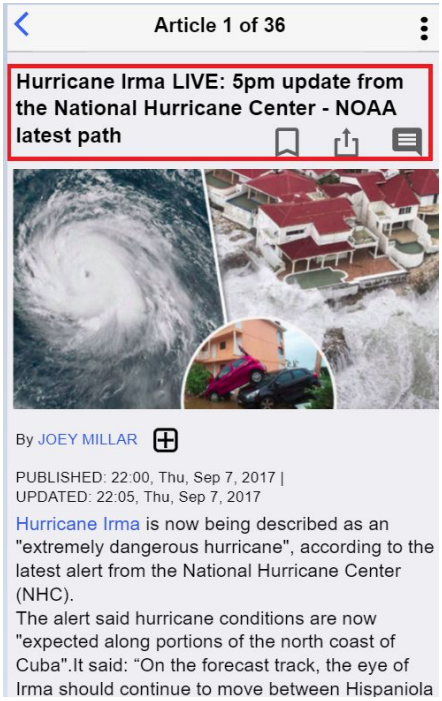
## Contrast

1. To draw user attention - The logo is placed in the center and the color of the logo is incorporated throughout the app. The header elements are bolder and the footer is a black with grey icons(when not selected) and white icons(when selected).

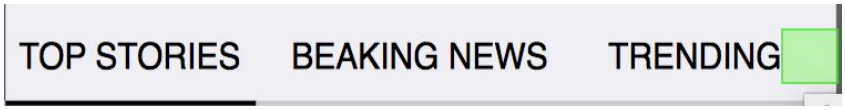



2. Headlines are bold as compared to other elements on the main page, just making a clear distinction between the important and not so important elements.



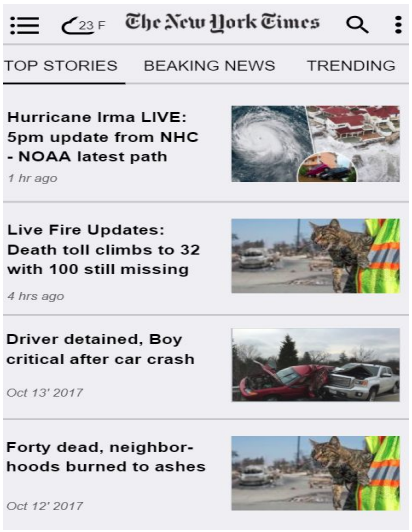




3. The swipe menu which acts as the local navigation for the main page is put in all caps, to make a distinction.

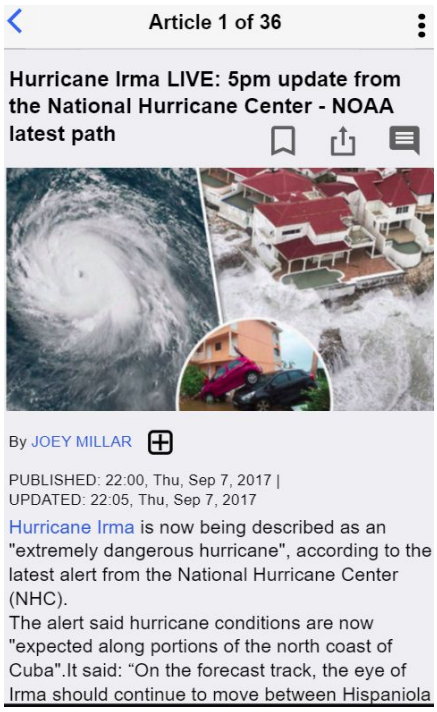



## Uniformity

1. Size of the images on the main page are the same to show uniformity.

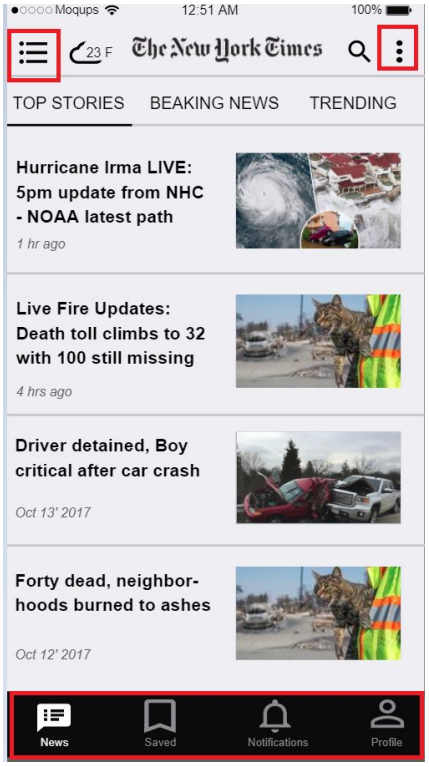


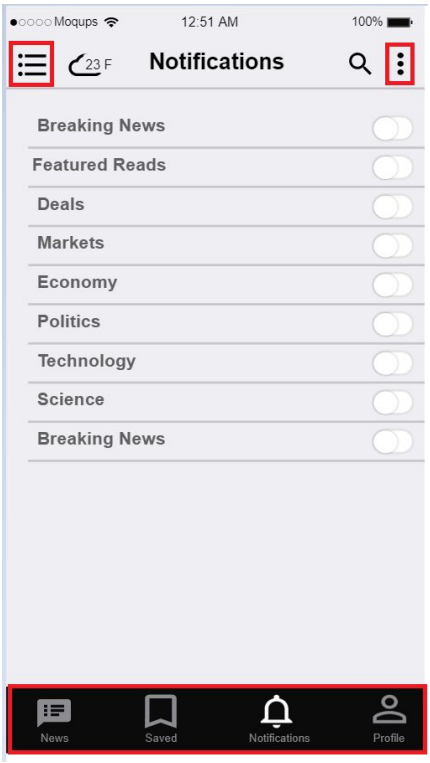

2. Internal display pages of the articles are the same and have the same look and feel, so user can know from using one page how the elements on the next article looks like.



## Internal Consistency

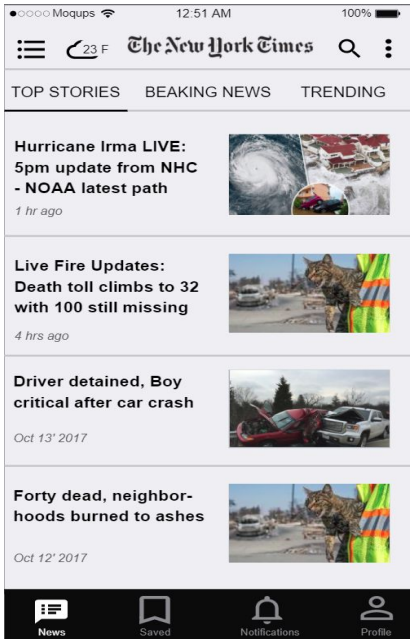
For news and saved articles instead of having a repetitive header with all the feature we isolated only those features like hamburger menu and the right hand side menus which made sense for the individual sections of the product. This way we are maintaining the inconsistency in a controlled environment to pictures they want when using individual sections of the app.



## Color Palettes

One of the underlying reason of improving the app is to bring back the feeling of reading the newspaper of The New York Times. For example, main headers are in black while the other elements are in grey shades





## Typography

Headlines are bolder to distinguish the subjects. For the local navigation we have used Helvetica Nueve. For title and heading we have use Arial Bold and for normal text we have used Arial Regular.


# Usability Testing/Storyboarding

## Scenarios

1. **Read Top Stories of the day**

   Use the NYTimes mobile app to find the latest and the top stories.

2. **Get weather updates**

   Use the NYTimes app to check for the weather for Sunday afternoon.

3. **Listen to the news instead of reading them**

   Use the NYTimes app to listen to the news.

4. **Read the news in the night without hurting the eye**

   Use the NYTimes app in the night without hurting your eye.

5. **Find old news**

   Use the NYTimes app to find news for the prior Monday.

6. **Follow a favorite reporter's articles**

   Use the NYTimes app to follow your favorite reporter's articles.

7. **Have 3-D experience of important news and events**

   Use the NYTimes app to experience the Virtual reality for recent bombings in the US.

8. **Create personal news feeds**

   Use the NYTimes app to create a personal news feed for yourself.

## Interview

| Task | Participant 1 | Participant 2 | Participant 3 |
|---|---|---|---|
| Use the NYTimes mobile app to find the latest and the top stories. | Time < 10 secs<br>Steps 1 | Time < 5 secs<br>Steps 1 | Time < 5 secs<br>Steps 1 |
| Use the NYTimes app to check for the weather for Sunday afternoon. | Time < 10 secs<br>Steps 2 | Time < 10 secs<br>Steps 2 | Time < 20 secs<br>Steps 5 |
| Use NYTimes app to listen to the news | Time < 30 secs<br>Steps 8 | Time < 30 secs<br>Steps 6 | Time < 30 secs<br>Steps 6 |
| Use the NYTimes app to experience the Virtual reality for recent bombings in the US. | Time < 20 secs<br>Steps 4 | Time < 40 secs<br>Steps 6 | Time < 40 secs<br>Steps 8 |

| | | | |
|---|---|---|---|
| Use the NYTimes app in the night without hurting your eye. | Time <15 secs<br>Steps 5 | Time < 10 secs<br>Steps 4 | Time < 10 secs<br>Steps 3 |
| Use the NYTimes app to find news for the prior Monday. | Time User was frustrated and gave up<br>Steps 10+ | Time 50 secs<br>Steps 12 | Time < 10 secs<br>Steps 3 |

## Observations

1. Whenever the user couldn't find anything, they would go to the hamburger menu and try looking for it. Second they would go to the footer and then to more sections with the three dots.
2. For VR scenario, both participants used the AR icon first and then went to the VR icon. Based on this, we have changed the icons.
3. For accessing old news, we have changed the label from “Calendar” to “Archived News”

# UX methods

## Card Sorting

**Card Sorting**: a quantitative or qualitative method that asks users to organize items into groups and assign categories to each group. This method helps create or refine the information architecture (IA) of a site by exposing users' mental models.

**Three types of Card Sorting:**

· **Open card sort:** Participants sort cards into categories that make sense to them, and label each category themselves

· **Closed card sort:** Participants sort cards into categories you give them

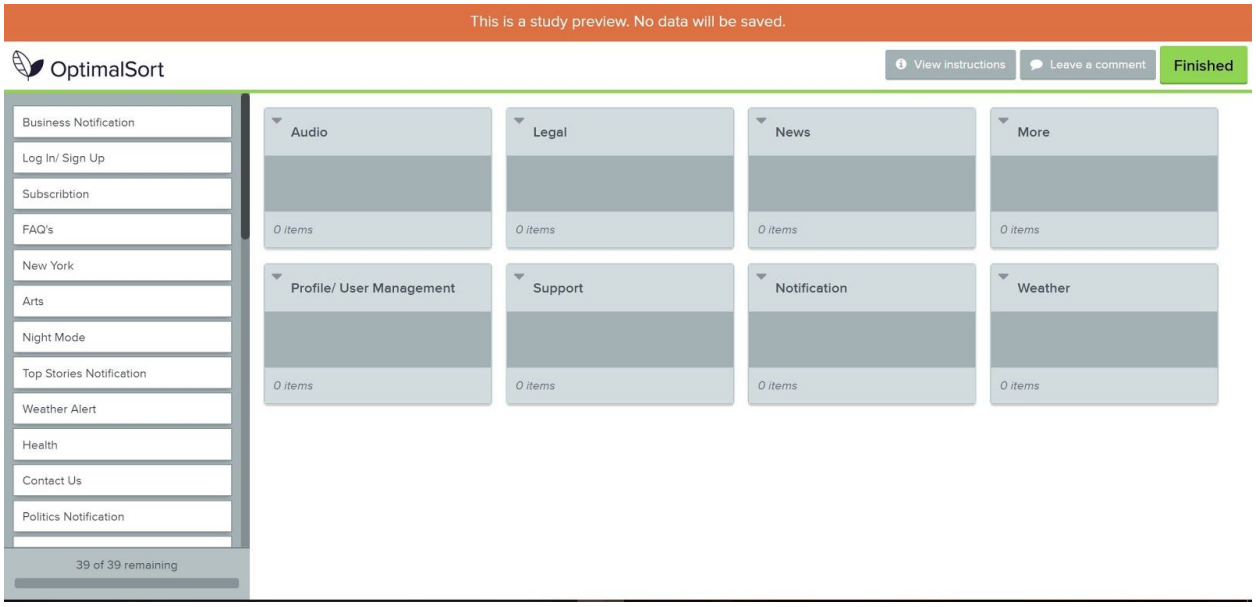
· **Hybrid card sort:** Participants sort cards into categories you give them, and can create their own categories as well

**We decided to do a hybrid card sort because:**

- We are happy with the groupings and labels of our IA, but want people to have the option to suggest their own just in case
- We want to find out if participants come up with category labels that are better than the ones we have.

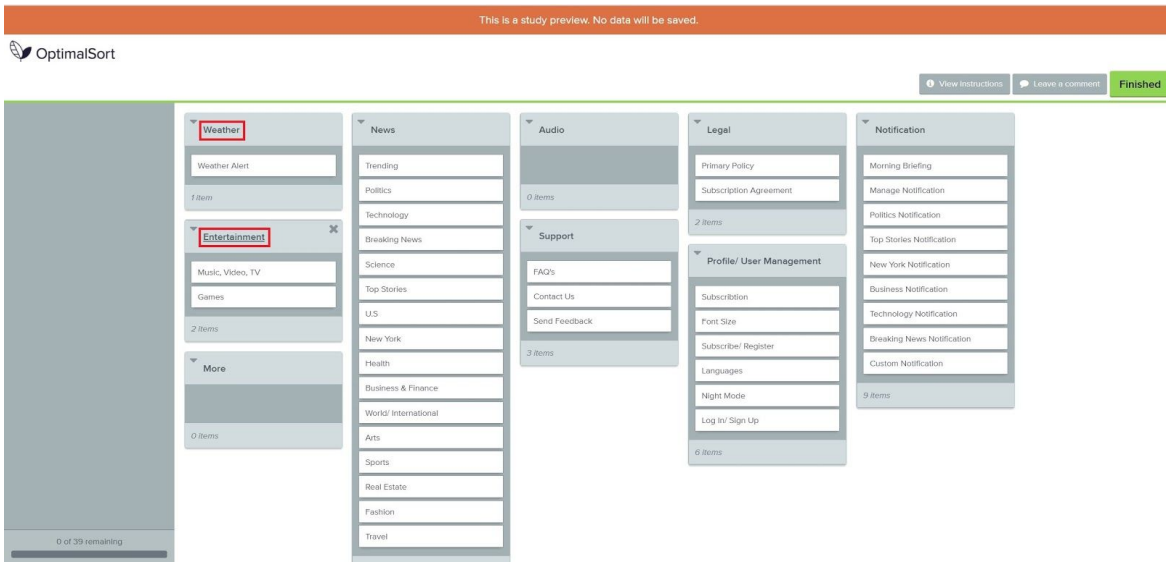
Since we already have enough categories for people to sort all the cards into our IA, our hybrid category will lean towards closed. This means people will be more likely to sort the cards into our categories only, and less likely to create new categories.

However, we have asked three Participants to sort out our Information Architecture using the categories shown in the below screenshot. However, we allowed them to create their own categories as well

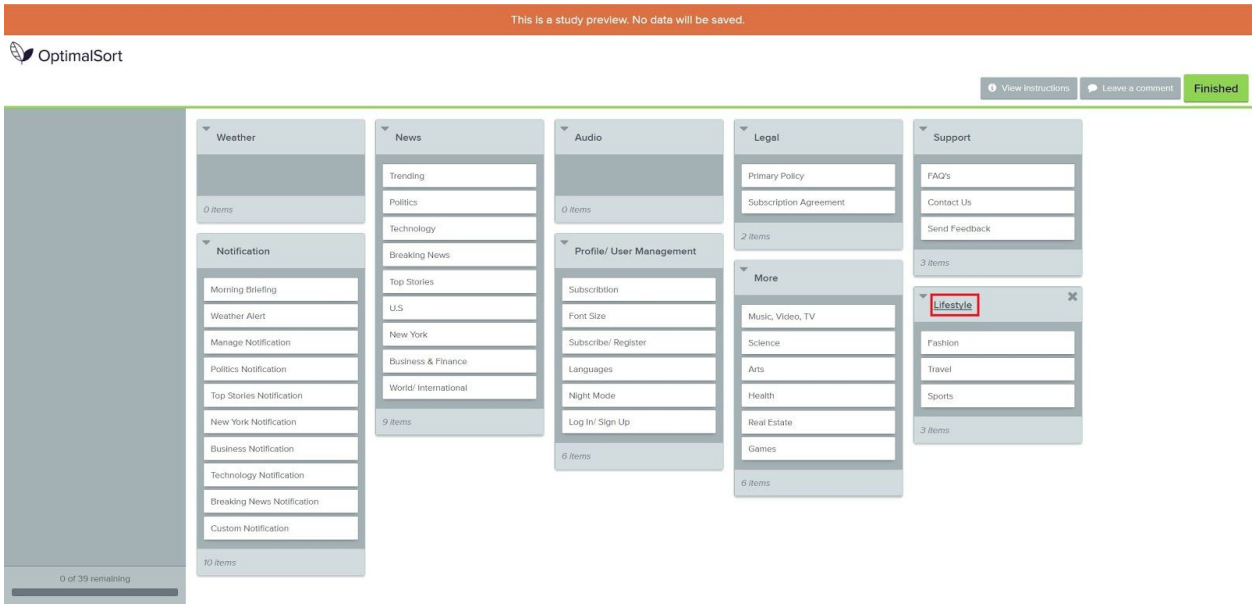



- **Results Overview:**

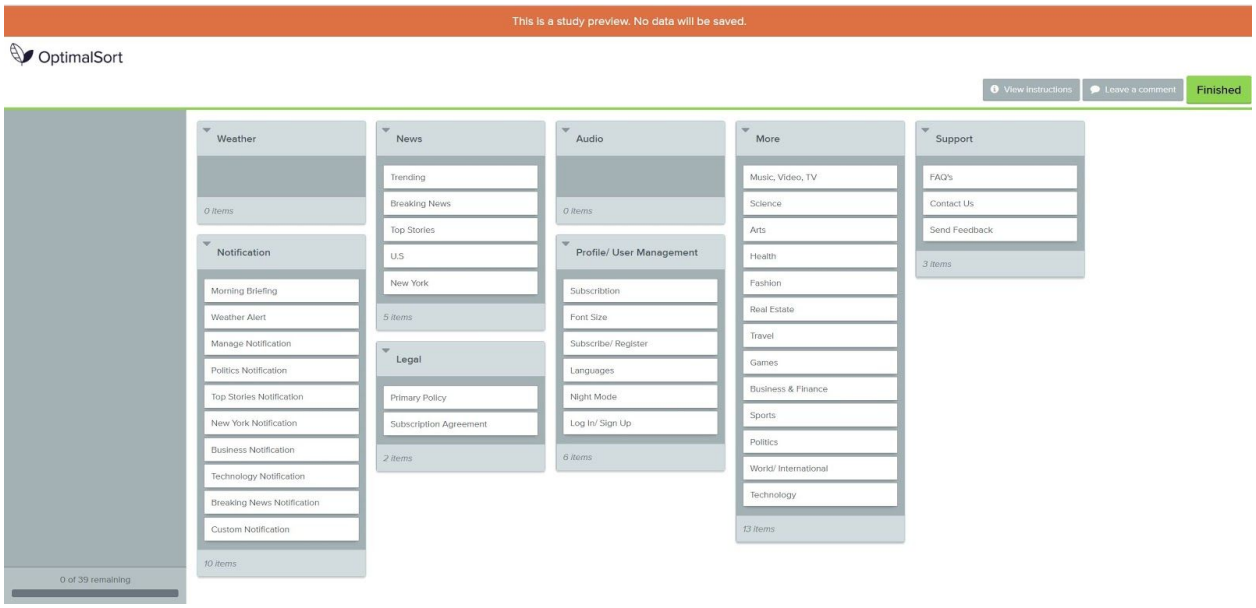
**1st participant:** distributed some cards to the given categories and added 2 new categories for other cards as shown below.



**2nd participant:** distributed some cards to the given categories and added 1 new categories for other cards as shown below




**3rd participant:** distributed all cards to the given categories as shown below.



· **Results Interpretation:**

**a) What logic do participants follow in the categories they've created?**

All of the participants used most of the available categories by following the common division in any typical newspaper website.

**b) What cards do people put together in the same group all the time?**

Most participants added the notification news cards under notification category and the user management cards under profile/user management category

**c) What cards are never put together, and are thus considered conceptually different by all participants?**

Participants never put the user management cards with the news cards and the news notification cards.

**d) What kinds of labels do people suggest for representing your information?**

Some participants suggested a secondary category under News categories, those new categories included Entertainment and lifestyle categories.

# Email Surveys

**Email Surveys:** a survey in which participants are recruited from an email message.
**This part already covered in the 1st phase of our project.**

# Interviews

**Interviews**: a researcher meets with participants one-on-one to discuss in depth what the participant thinks about the topic in question.
We conducted interviews with 3 participants. Here are the interviews questions and answers:

### Q1) Is the App's overall design appealing?

- Yes - 100%
- No - 0%

### Q2) Are the colors used logically related?

- Yes - 100%
- No - 0%

**Q3) Are the fonts easy to read on various screen resolutions?**

- Yes - 100%
- No - 0%

**Q4) Are the content of articles broken into easy to read paragraphs?**

- Yes – 66.7%
- No - 33.3%

**Q5) Do you find difficulty navigating the NY Times App?**

- Yes - 0%
- No - 100%

**Q6) What is the most important feature in the App from you own perspective?**

- Night Mode - 33.3%
- Archived News - 0%
- News Alert - 33.3%
- Bookmarking - 33.3%
- Audio - 0%

**Q7) What is the least useful feature in the App from you own perspective?**

- Night Mode - 33.3%
- Archived News - 66.7%
- News Alert - 0%
- Bookmarking - 0%

- Audio - 0%

**Q8) Would you depend on this App instead of browsing NY Times website or reading the paper-based version?**

- Yes - 100%
- No - 0%

**Q9) Do you suggest any usability improvements for the App?**

· Increase the user's opportunity to tailor the app to his/her own taste like adjusting colors of article's font and background.

· Provide some way for user to give their feedback such as a button or link to open an email

# Usability Benchmarking

**Usability Benchmarking**: tightly scripted usability studies are performed with several participants, using precise and predetermined measures of performance.
In Simple words, Benchmarking is the process of testing a site or app's progress over time.

We have asked 4 participants to conduct the following UX Test Scenarios:

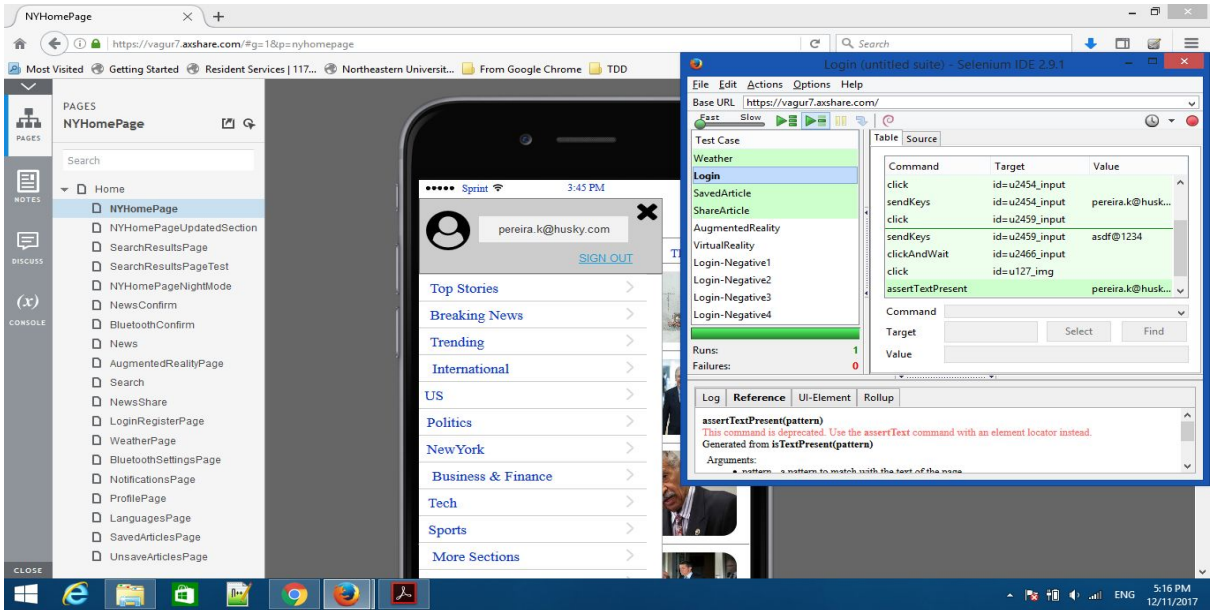
1. Open the NY Times App then retrieve the archived news on January 12, 2017
2. Open the NY Times App then apply the night mode and change the font size
3. Open the NY Times App then check weather forecasting for 10 days ahead.
4. Open the NY Times App then try listening to the audio news.
5. Open the NY Times App and pick up 2-3 interesting articles to read and bookmark the last one to continue reading later

# Axure Prototype

Link https://vagur7.axshare.com

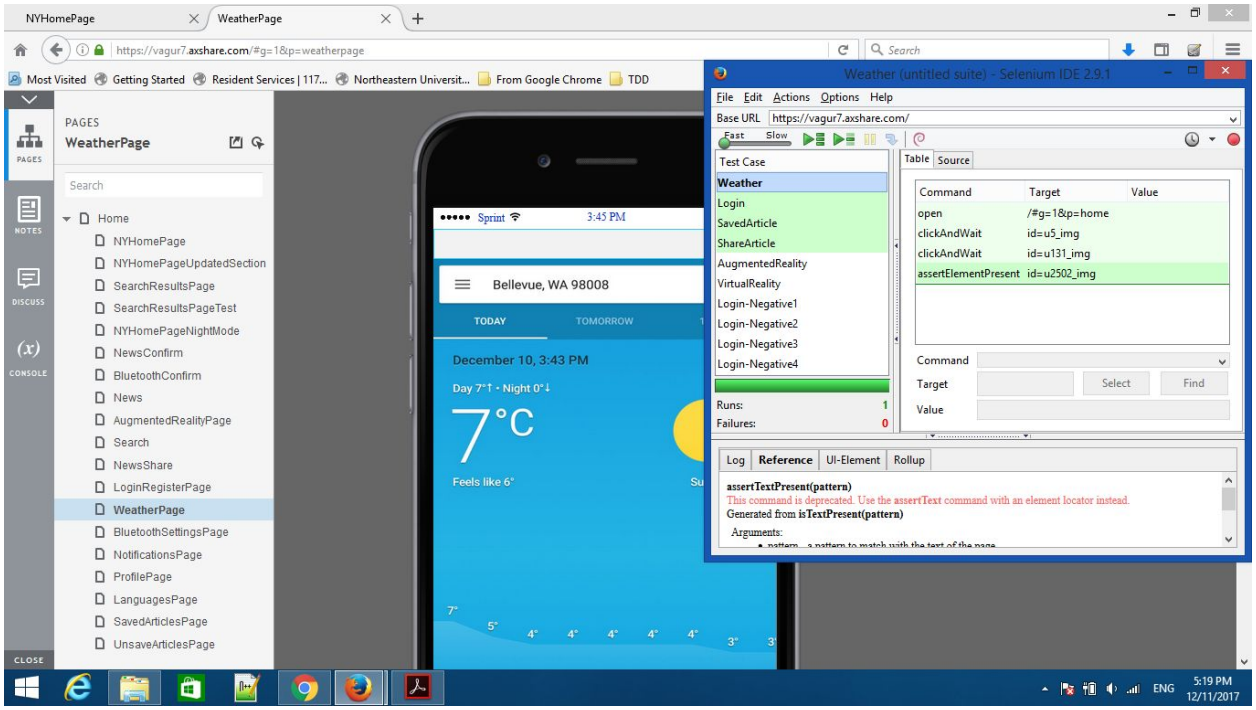
# Quality Assurance & Automation

1. **Login Functionality**



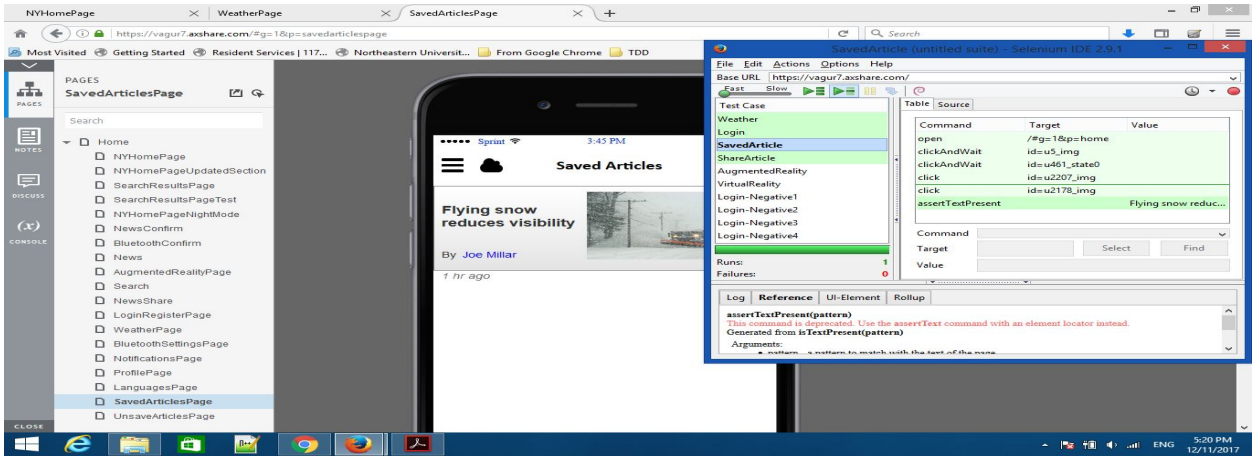

| Login | | |
|---|---|---|
| open | /#g=1&p=home | |
| clickAndWait | id=u5_img | |
| click | id=u127_img | |
| clickAndWait | css=#u284_text > p:nth-child(1) > span:nth-child(1) | |
| click | id=u2454_input | |
| sendKeys | id=u2454_input | pereira.k@husky.com |
| click | id=u2459_input | |
| sendKeys | id=u2459_input | asdf@1234 |
| clickAndWait | id=u2466_input | |
| click | id=u127_img | |
| assertTextPresent | | pereira.k@husky.com |

## 2. Weather forecast functionality



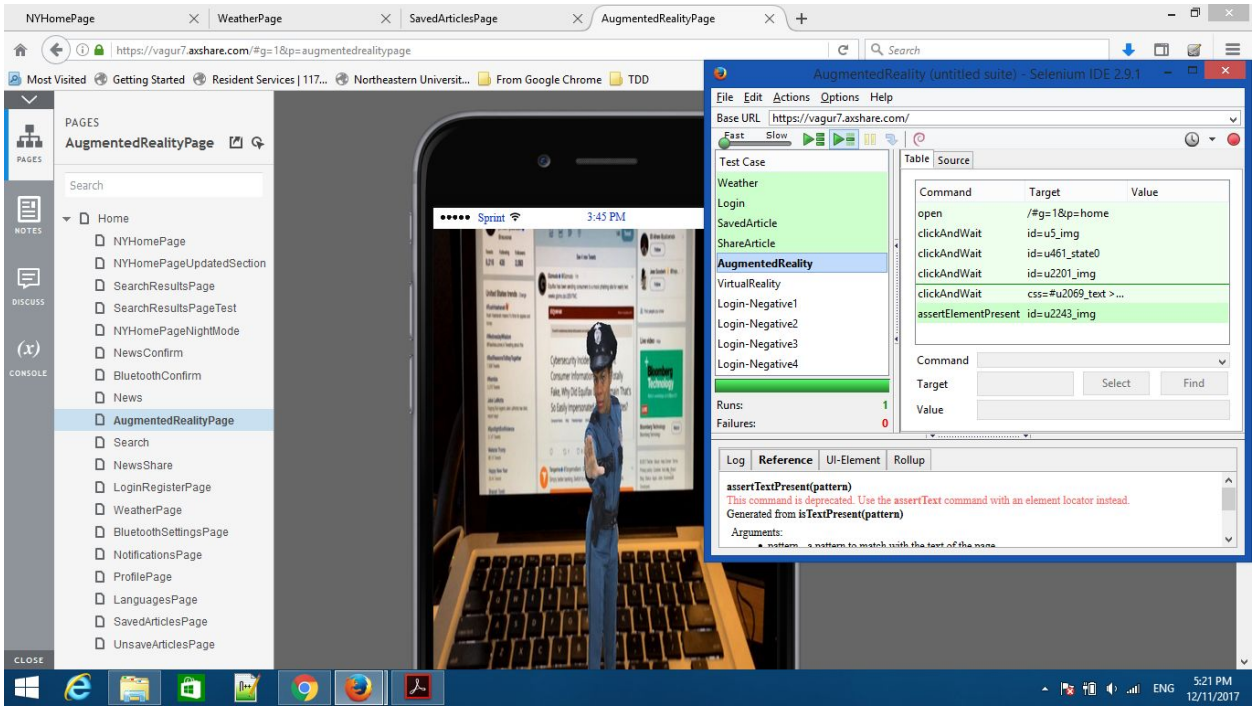

| Weather | |
|---|---|
| open | /#g=1&p=home |
| clickAndWait | id=u5_img |
| clickAndWait | id=u131_img |
| assertElementPresent | id=u2502_img |

## 3. Articles can be saved



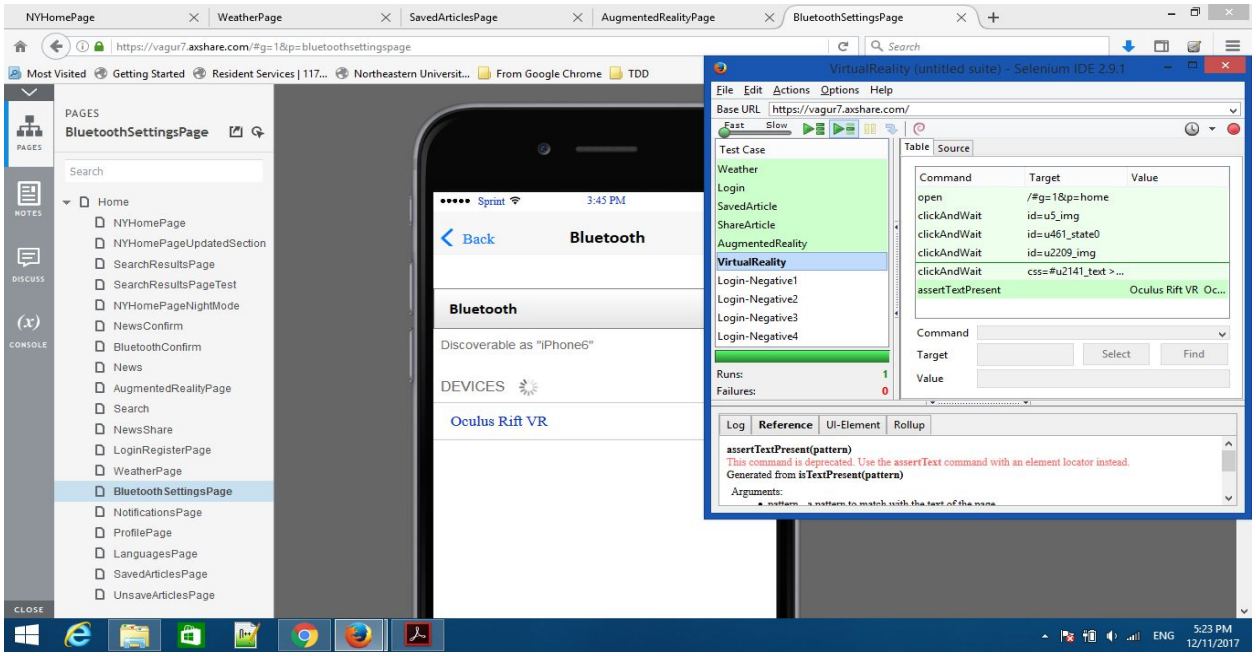
| SavedArticle | | |
|---|---|---|
| open | /#g=1&p=home | |
| clickAndWait | id=u5_img | |
| clickAndWait | id=u461_state0 | |
| click | id=u2207_img | |
| click | id=u2178_img | |
| assertTextPresent | | Flying snow reduces visibility |

## 4. Augmented Reality



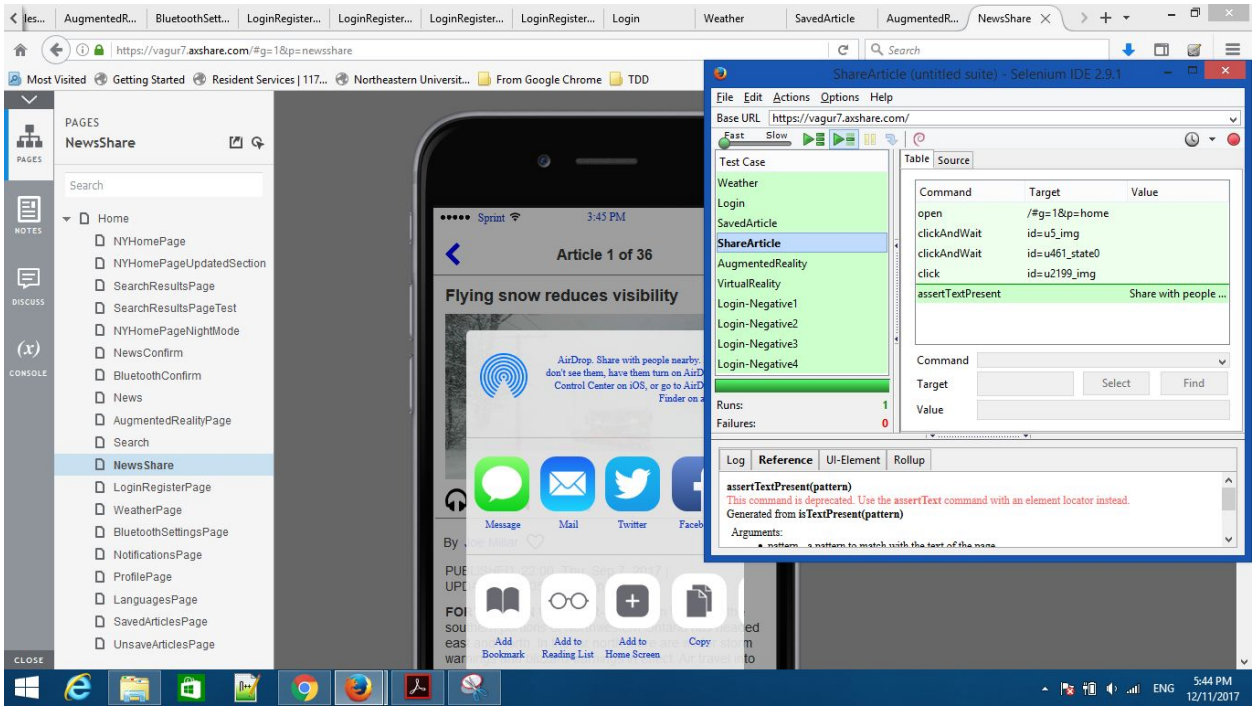

| AugmentedReality | |
|---|---|
| open | /#g=1&p=home |
| clickAndWait | id=u5_img |
| clickAndWait | id=u461_state0 |
| clickAndWait | id=u2201_img |
| clickAndWait | css=#u2069_text > p:nth-child(1) > span:nth-child(1) |
| assertElementPresent | id=u2243_img |

## 5. Virtual Reality



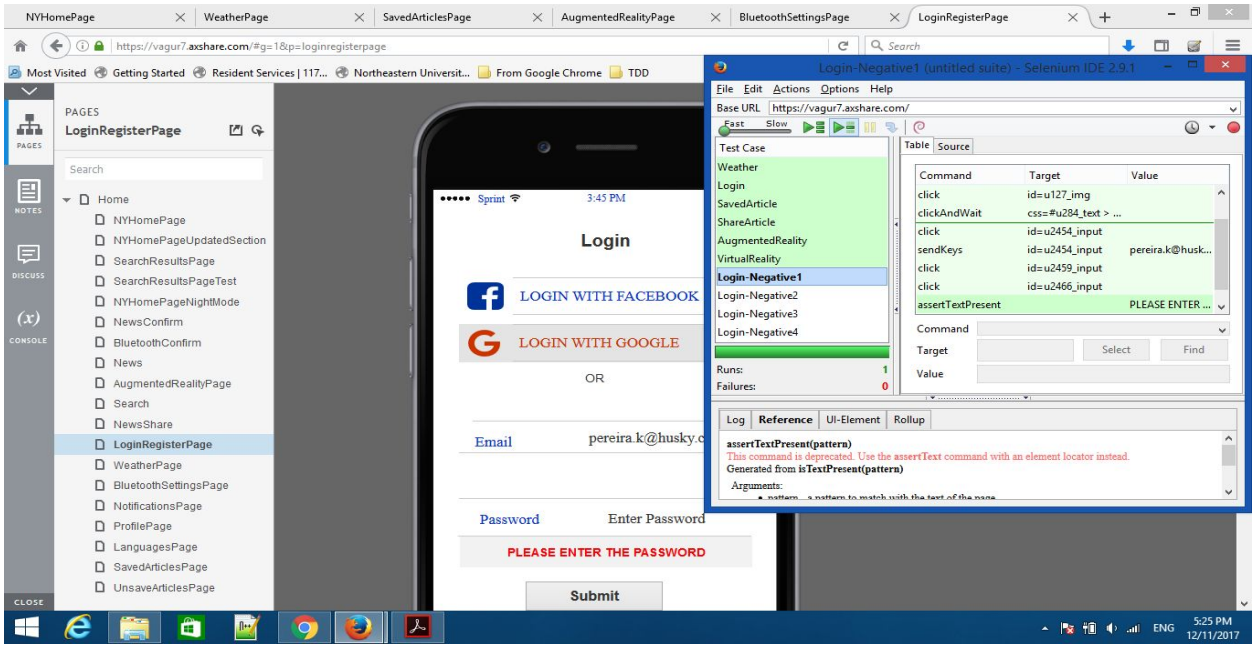

| VirtualReality | | |
|---|---|---|
| open | /#g=1&p=home | |
| clickAndWait | id=u5_img | |
| clickAndWait | id=u461_state0 | |
| clickAndWait | id=u2209_img | |
| clickAndWait | css=#u2141_text > p:nth-child(1) > span:nth-child(1) | |
| assertTextPresent | | Oculus Rift VR Oculus Rift VR |

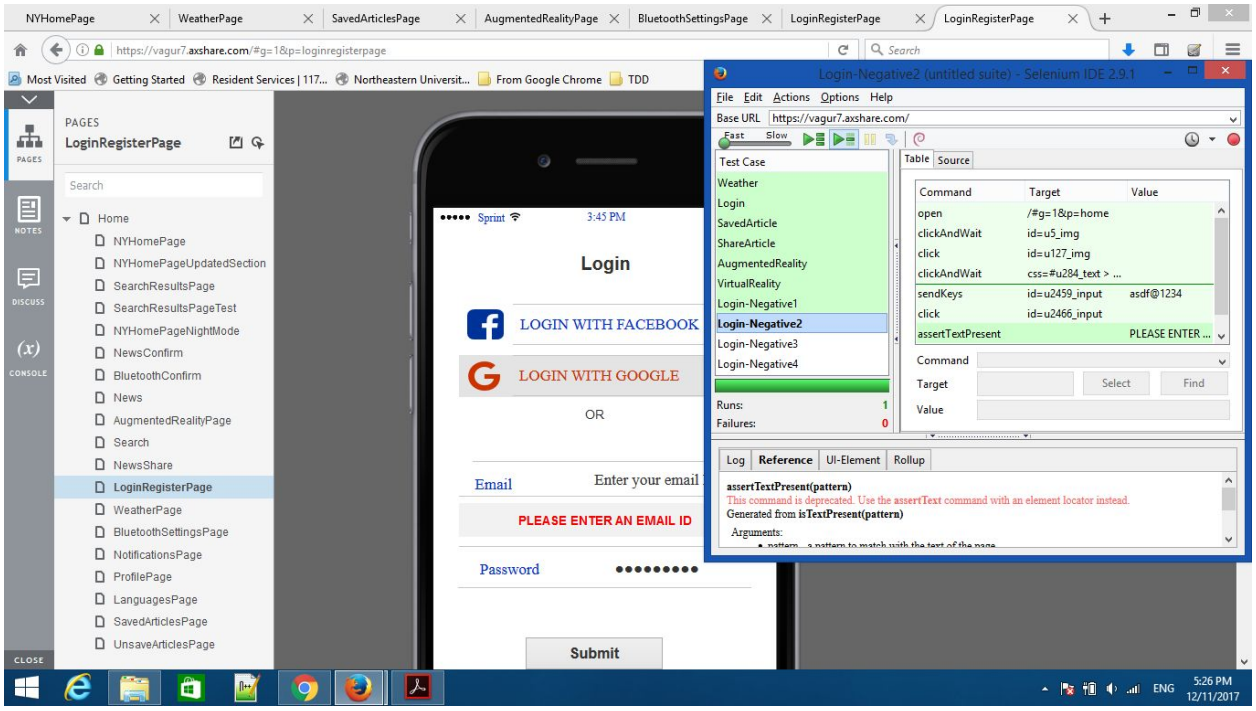
## 6. Sharing Articles

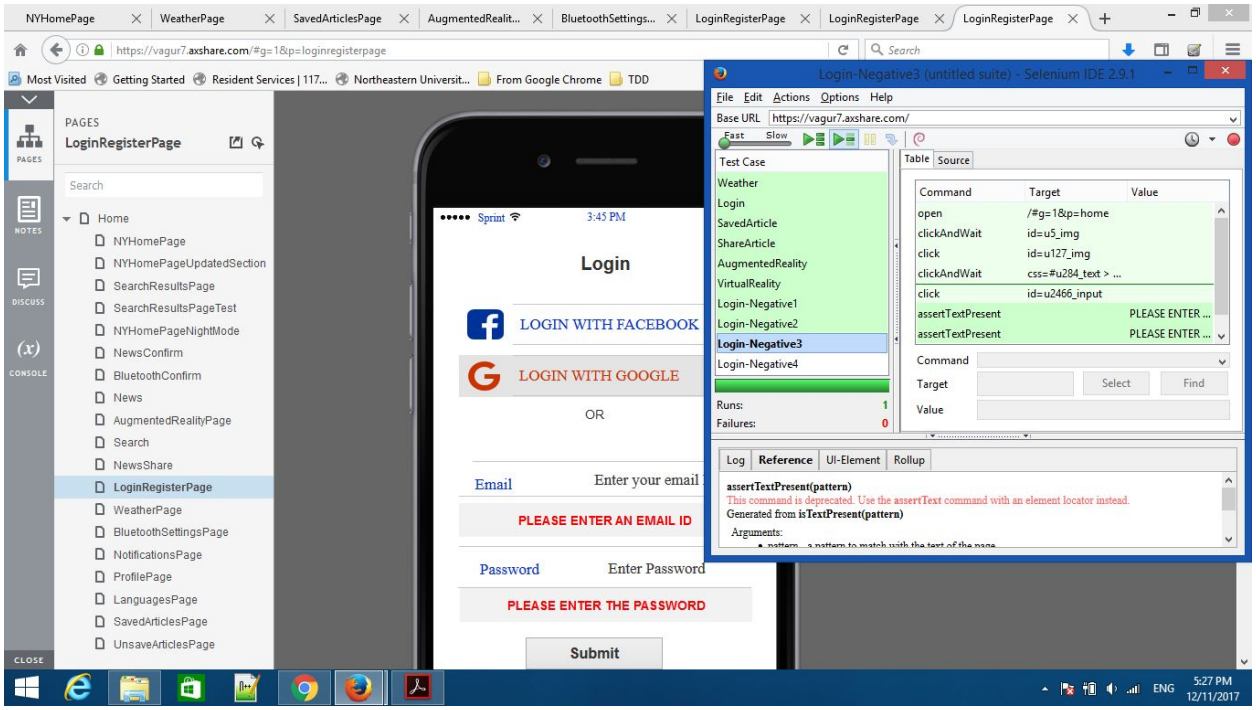


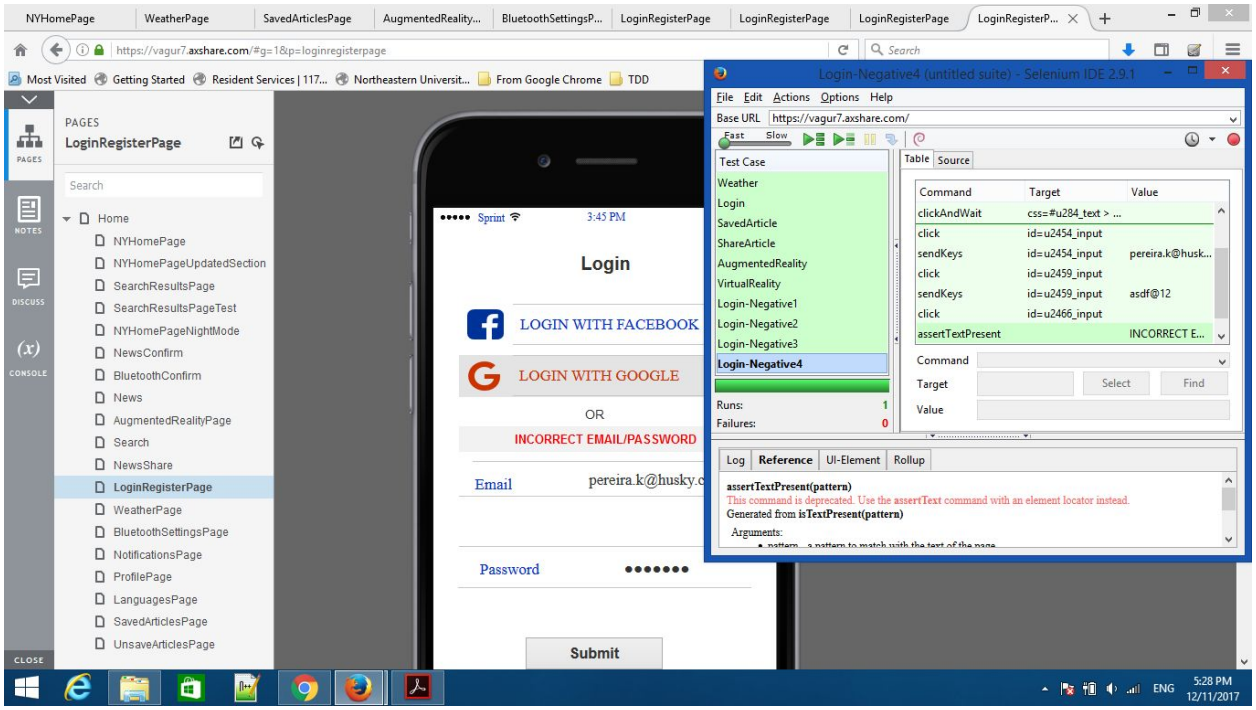

| ShareArticle | | |
|---|---|---|
| open | /#g=1&p=home | |
| clickAndWait | id=u5_img | |
| clickAndWait | id=u461_state0 | |
| click | id=u2199_img | |
| assertTextPresent | | Share with people nearby |

## 7. Negative Test Cases




NYHomePage
WeatherPage
SavedArticlesPage
AugmentedRealit...
BluetoothSettings...
LoginRegisterPage
LoginRegisterPage
LoginRegisterPage
https://vagur7.axshare.com/#g=1&p=loginregisterpage
Most Visited
Getting Started
Resident Services | 117...
Northeastern Universit...
From Google Chrome
TDD
PAGES
LoginRegisterPage
Search
Home
NYHomePage
NYHomePageUpdatedSection
SearchResultsPage
SearchResultsPageTest
NYHomePageNightMode
NewsConfirm
BluetoothConfirm
News
AugmentedRealityPage
Search
NewsShare
LoginRegisterPage
WeatherPage
BluetoothSettingsPage
NotificationsPage
ProfilePage
LanguagesPage
SavedArticlesPage
UnsaveArticlesPage
CLOSE
Sprint
3:45 PM
Login
LOGIN WITH FACEBOOK
LOGIN WITH GOOGLE
OR
Email
Enter your email
PLEASE ENTER AN EMAIL ID
Password
Enter Password
PLEASE ENTER THE PASSWORD
Submit
Login-Negative3 (untitled suite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://vagur7.axshare.com/
Test Case
Weather
Login
SavedArticle
ShareArticle
AugmentedReality
VirtualReality
Login-Negative1
Login-Negative2
Login-Negative3
Login-Negative4
Runs: 1
Failures: 0
Table Source
Command Target Value
open /#g=1&p=home
clickAndWait id=u5_img
click id=u127_img
clickAndWait css=#u284_text > ...
click id=u2466_input
assertTextPresent PLEASE ENTER ...
assertTextPresent PLEASE ENTER ...
Select
Find
Log Reference UI-Element Rollup
assertTextPresent(pattern)
This command is deprecated. Use the assertText command with an element locator instead.
Generated from isTextPresent(pattern)
Arguments:
ENG
5:27 PM
12/11/2017


NYHomePage
WeatherPage
SavedArticlesPage
AugmentedReality...
BluetoothSettingsP...
LoginRegisterPage
LoginRegisterPage
LoginRegisterPage
LoginRegisterP...
https://vagur7.axshare.com/#g=1&p=loginregisterpage
Most Visited
Getting Started
Resident Services | 117...
Northeastern Universit...
From Google Chrome
TDD
PAGES
LoginRegisterPage
Search
Home
NYHomePage
NYHomePageUpdatedSection
SearchResultsPage
SearchResultsPageTest
NYHomePageNightMode
NewsConfirm
BluetoothConfirm
News
AugmentedRealityPage
Search
NewsShare
LoginRegisterPage
WeatherPage
BluetoothSettingsPage
NotificationsPage
ProfilePage
LanguagesPage
SavedArticlesPage
UnsaveArticlesPage
CLOSE
Sprint
3:45 PM
Login
LOGIN WITH FACEBOOK
LOGIN WITH GOOGLE
OR
INCORRECT EMAIL/PASSWORD
Email
pereira.k@husky.c
Password
Submit
Login-Negative4 (untitled suite) - Selenium IDE 2.9.1
File Edit Actions Options Help
Base URL https://vagur7.axshare.com/
Test Case
Weather
Login
SavedArticle
ShareArticle
AugmentedReality
VirtualReality
Login-Negative1
Login-Negative2
Login-Negative3
Login-Negative4
Runs: 1
Failures: 0
Table Source
Command Target Value
clickAndWait css=#u284_text > ...
click id=u2454_input
sendKeys id=u2454_input pereira.k@husk...
click id=u2459_input
sendKeys id=u2459_input asdf@12
click id=u2466_input
assertTextPresent INCORRECT E...
Select
Find
Log Reference UI-Element Rollup
assertTextPresent(pattern)
This command is deprecated. Use the assertText command with an element locator instead.
Generated from isTextPresent(pattern)
Arguments:
ENG
5:28 PM
12/11/2017