Creative Applications for Mobile Devices - ECE 1778

United4Iran Final Report - Pouya Alagheband – 993077683

1 Introduction – What & why

The United4Iran (U4I) mobile application would be an advocacy, fund-raising, and communication tool to better and more effectively coordinate between U4I, prominent NGOs, and an international network of grassroots activists. The application will have different features including a newsfeed, urgent action alerts, and donations.

Smartphone application development is very expensive. Multiple reports show that nonprofits and large companies are spending as much as $50,000 to create and launch a mobile application. However, the capability of disseminating information, action alerts – in real-time – is vital for the real-world and evolving web existence of grassroots networks and organizations. In this project, we will assess the vital needs of such NGO applications and create a pilot application for a real non-profit organization, United4Iran.

Small and medium-sized NGOs typically have small budgets and are often forced to prioritize other activities above using their limited resources on new technologies. Smartphone applications, however, can be a vital tool for these NGOs. Accessible Smartphone applications can also motivate grassroots organizations to use new technologies for their causes.

By producing a mobile application with the purpose to encourage international networks to engage, plug-in, stay plugged-in, and take action, the greatest achievement is having taken what was once considered a novelty (cell phone applications) and innovating a new way to utilize such technologies in a way that can impact the world. Such use of these types of applications allows people to use their phones and mobile applications for more than games and music. A mobile application such as this also seems the natural next step for many NGOs that work with activists and networks worldwide. As activism becomes more web-based, and as news and developments travel faster and faster via social media platforms, it is imperative that such organizations keep up with the fast pace of the internet and alert their users as things happen; thereby almost eliminating the need for the organization to depend solely on its website and other web platforms not always readily accessible when users are on the go.

2   Overall Design – Block diagram, description of each part

Users start the program from the "Main Window". The main user interface of the system is built in this block, there are four tab buttons that the user can choose from. The "Main Window" at the beginning checks the availability of the Internet connection, and is called the "Reachability" component, which uses the CFNetwork and SystemConfiguration frameworks from Apple to check Internet connectivity. It uses a suggested website, here the Google website, to check the connectivity.
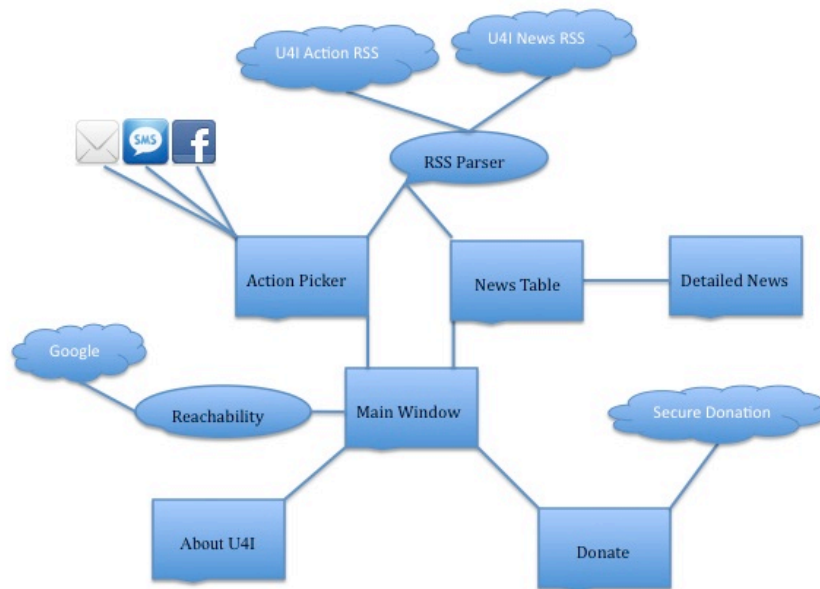

Figure 1: Overall Design

If there is no Internet connection, the Main Window will inform the user and exit the application. If there is an Internet connection, the main view will be loaded from the "NewsTable" component. Users can see the most recent RSS-based news headlines from United4Iran's server. The "NewsTable" does this by calling the "RSS Parser" procedure for handling the RSS feed.

The user can choose any headline from the news table and another view will be loaded in the "Main Window" from the "DetailedNews" component. The "DetailedNews" component can load each news detail, headline, date and summary by using the objects initialized by the "RSS Feed Parser".

The user can choose the Action tab from the tab buttons in the "Main Window". This will call the "Action Picker" component. Similar to the "NewsTable", the "RSS Parser" will be called to initialize action objects from another RSS feed called United4IranActions. Different urgent action options are made available for the users and they can choose to take part in and share an action with their friends via email, SMS, or Facebook.

Users can choose two other tabs in the "Main Window": the "Donation" or "About" tab. When a user chooses the donation tab, the "Donation" component will bring up a new view, with information about donating, and a button that takes the user to a secure donation website (Network for Good). This will happen inside the "Donation" component, and no external browser will be run in order to load the secure website. The user can donate money and return to the main donation view.

The "About" component is simply a page with information about the organization. It is also available from the tab bar in the "Main Window".

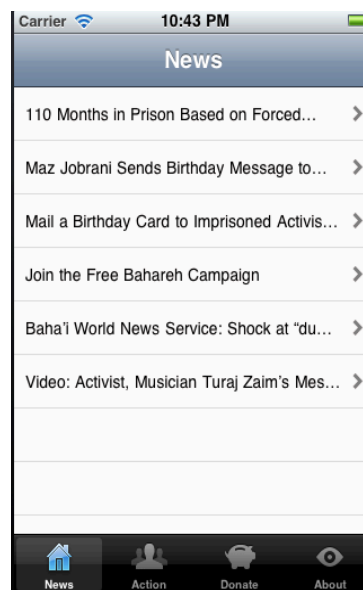## 3   Screen Shots and descriptions

Figure 2: Main Window

- **Load News Table**: Displays the latest news from the United4Iran website, It gets updated whenever any news is added to the website.

- **Check the Internet connectivity**: Provides the connectivity check when it's loading, it will inform the user if the application could not reach Internet.
- **Tab Bar accessibility:** Includes the ability to choose the features of the application. User can access the News, Action, Donate and About pages.
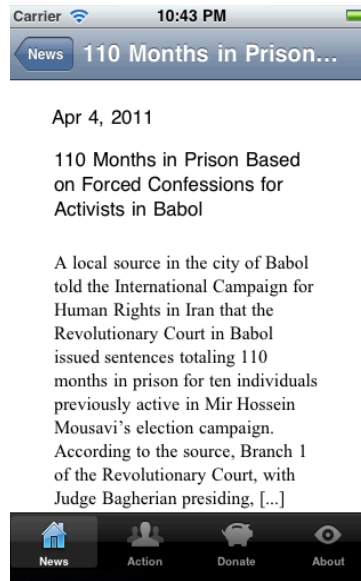

Figure 3: News Detail

- **News Button**: On the upper side of the page, users have an access button to return to the news table in the Main Window.
- **Tab Bar accessibility:** Includes the ability to choose the features of the application. The user can access the News, Action, Donate and About pages.
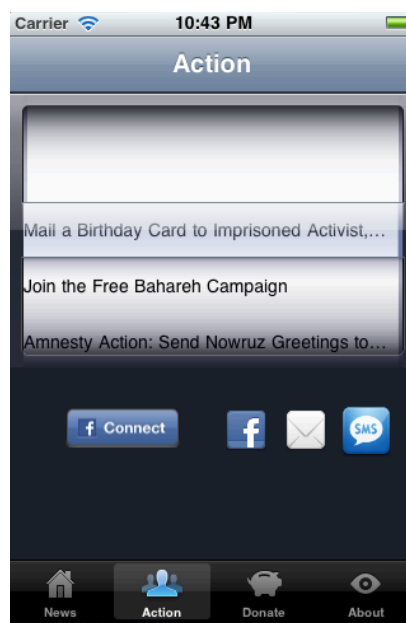

Figure 4: Action Picker

- **Select an action**: Users can select an action to send to their contacts by email or SMS, or post on their walls in Facebook.
- **Facebook connectivity**: Provides the ability to connect to Facebook. The user's profile will be saved until they press the logout button after signing in which will be swapped with the connectivity button. After signing in facebook, the user's profile saved until they press the logout button, which will replaces the connectivity button in this screen.
- **Post on Facebook Wall**: Displays the posting page on Facebook when a user is already signed into Facebook. Otherwise an alert will pop up to inform the user that they need to sign in to the Facebook.
- **SMS sending option:** Displays the SMS page of the phone ready for the user to fill in the appointed contact, the title of the action, along with a shortened hyper link of the page that will be sent to the contact.
- **Email sending option:** Displays the email page with the title of the action as the subject of email, and a summary along with a link to the news in the body of the email. Users can send an email to their contacts, or cancel and get back to the news detail page.
- **Tab Bar accessibility:** Includes the ability to choose the features of the application. User can access the News, Action, Donate and About pages.
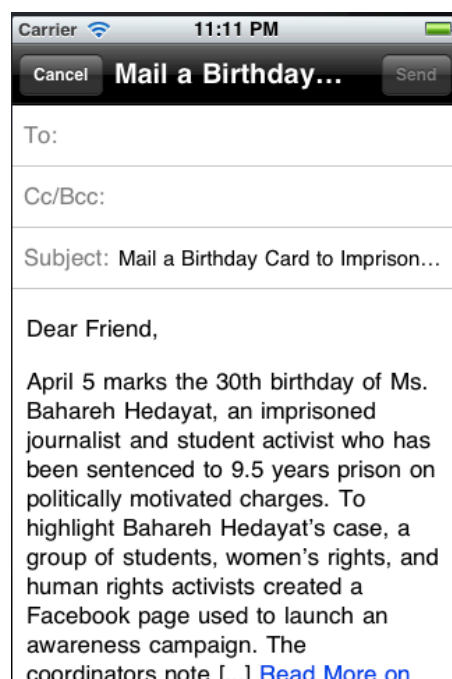

Figure 5: Email Page

- **Cancel email:** Displays three different options for user. They can get back to the email page again, save it as a draft or ignore sending the email.
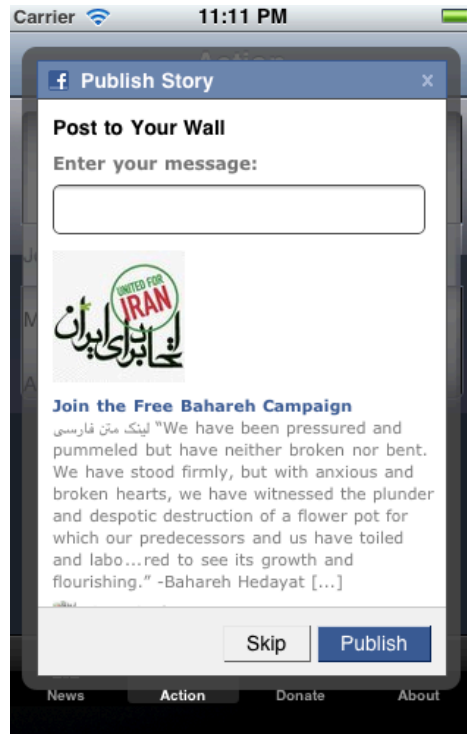- **Send email:** Allows user to send the email.

Figure 6: Facebook Posting

- **Publish the story:** Allows users to submit their custom status for the link and the action with the story. It allows users to publish story on their wall.
- **Skip the story:** Provides a canceling option for publishing the story.

Figure 7: Donation View

- **Donate Now**: Allows users to load the secure donation page of the organization.

- **Tab Bar accessibility:** Includes the ability to choose the features of the application. User can access the News, Action, Donate and About pages.

Figure 8: Secure Donation

- **Donation form:** Displays a form with blank text fields and radio buttons for users to complete. Allows users to choose the amount of donation money, filling in their personal information and payment method.
- **Submit the information:** Allows user to submit the form and donate.
- **Back to Donation View:** Allows user to load the Donation View with the menu options.

- **United4Iran Scrolling Information:** Displays information about the organization in two scrolling pages.
- **Tab Bar accessibility:** Includes the ability to choose the features of the application. User can access the News, Action, Donate, and About pages.

4   Statement of Functionality

The proposed features are completely achieved and functional, there are some extra features that are added to the final proposal as well.

5   What would you do differently – what did you learn?

Put more time on designing phase: Having enough time for designing the application before the coding phase is essential. The feature accessibility and communication between the application's various parts needs to be designed thoroughly before the coding. I would have saved time if I had put more time into the design before starting the code. Instead, I had to go back to change some parts of the design and code. Design and planning can accommodate possible future work; otherwise, the developers will need to re-design and re-do everything from scratch.

6   What is next?

Minor Improvements: There are lots of minor improvements that could be made on the project without changing the overall design. Some of them are:

- Twitter Connectivity
- Ability to send title and pictures as MMS.
- Professional User Interface
- Customize RSS reader for managing podcasts.
- Easy access for other United4Iran digital channels (YouTube, Flickr)
- Subscribe to United4Iran Twitter, Facebook, and E-Blast
- Calendar of events all over the globe

Re-Design the application: In the completed version, there is not that much interaction between users and the organization, or between users and other users. These kinds of interactions will cause users to use the application more often. One suggestion for future work is providing users the ability to sign in and build their profiles with their preferred social identities. They will have different options to interact with the organization and other users. Some options are:

- Users can communicate in different categories like location, events, or interests.
- Users can check the events posted by the organization branch close to them.
- Users can post events on the event page.
- Allows users to generate different content like comments, pictures, and videos.

These features can also be integrated with the original website.

Do-it-Yourself Online Tool: Recently there has been a new wave of do-it-yourself online tools trying to help companies make their own mobile applications. They are costly and not specialized to meet the needs of NGOs. After the completion of the first template, the project can focus on creating a flexible online tool for customizing the options for any grassroots organization.

Words Count: 1745