CH-1 Introduction

1.1 Problems

     I.   Facebook Messenger Client was not available for Windows Phone.(21-2-2014)

    II.   Can't update Facebook Status in same messenger

   III.   Can't update Facebook Status as tracked position-location

   IV.   Can't Check Latest Headline News of Popular International News Papers.

    V.   Doesn't have Design for touch environment

   VI.   Doesn't have Animated metro delight UI Experience

  VII.   Can't works with Cloud Connection

 VIII.   Insecure credential communication.

   IX.   Other Applications Takes more data storage in memory.

Solutions

1.2 An Introduction to Windows Phone 8 Platform

Windows Phone 8 Platform is unique and more secure popular platform for App Development with multi device supportability from Microsoft Pvt.Ltd , There are beautiful new hardware from NOKIA,HTC,SAMSUNG and more.

New WP8 Hardware
Beautiful new hardware from Nokia, HTC, Samsung and more…

Windows Phone

Windows Phone 8 Platform is a Modern Smartphone platform having following capabilities.

- New multicore chipset
- New graphics processor
- Increased RAM: 1GB or 512MB
- More Screen resolutions
- Removable, encryptable storage
- NFC

Windows Phone gets the support for multi-core and other hardware features that Windows has had for years

This solid, common foundation makes it easier to extend the Windows Phone platform into the future.

- Widely supports Win32 and COM API
- XAML UI with Managed Code Also
- XNA Games Platform supports using Managed Code Also
- Windows Phone 7.x App Compatibility
- Fast and Fluid MAP Integration from BING and Latest technology supplied by NOKIA
- Location and Position Tracking Compatibility
   (**APPENDIX-E**)
- Speech Recognizations
- Support Multi Device Screen Resolutions
- Widely support Camera and lenses
   o As a lens, your app provides the user with a viewfinder experience and interacts directly with the camera.
- VOIP and Video Chat

1.3 Introduction to Sky Messenger

Sky messenger is an enterprise level windows phone 8 app for Facebook Platform where End User can communicate with their Facebook friends, whether friend is online or offline User can sent message to him/her, User can also filter friends who are currently Active.

Sky messenger give animated metro UI with cool motion experience, The Unique and powerful feature is Facebook User can Update Status and Status will display on his/her's Wall, Other Unique and powerful feature is Facebook User can track own Location-position and update it as Status and Status will also display on his/her's Wall, It's having cool and very nice feature is to display latest headlines of INDIAN INTERNATIONAL News Papers.

Sky Messenger is totally designed for touch environment although supports all modern resolution and device's like Smartphone, Tablet, Touch LED Monitor etc. It's gives intuitive interaction to user with delight motion effect where user can gain one of the unique and cool features from windows phone 8 Platform.

Sky Messenger gives Encrypted and Secure Communication with FACEBOOK Encryption Technologies, Everything is Cloud Connected so everything is secure, and nothing is stored in phone data storage each and every data communicate with Cloud in very secure manner.

1.4 Alternatives to Sky Messenger

In Market there is other FACEBOOK Messenger type's application available but following feature is not available in those applications.

- Widely Supports All MICROSOFT Windows Phone 8 touches Device and Resolutions.
- FACEBOOK User can Update Status and Status will display to wall of FACEBOOK User.
- FACEBOOK User can track current location-position and Update it as Status. (**APPENDIX-E**)
- Sky Messenger tracks User Location on Following Techniques
  - GPS
  - Cell Towers
  - Wi-Fi
- Animated Metro Delight UI Experience.
- Every communication through Sky Messenger is in Encrypted Form nothing is Stored to Phone so there is no RISK and Vulnerability to attack.
- Sky Messenger also Display Latest Headlines from INDIAN INTERNATIONAL Newspaper like
  - TIMES OF INDIA
  - ECONOMICS TIMES
  - INDIAN EXPRESS
  - THE HINDU

CH-2 Tools and Technologies

Sky Messenger is developed for touch screen windows phone 8 platforms, various different tools and technologies used as are below.

Tools	Tool Name	Purpose
	Microsoft Visual Studio 2012 v.4	IDE
	Microsoft Blend 2012 v.4	XAML UI Designer
	Microsoft Windows Phone SDK 8.0	Platform
	Microsoft Silverlight Toolkit v 4.0	Animation (**APPENDIX-D**)
	Telerik UI Controls API	Motion UI Controls
	XFacebook C# Graph API	Facebook

Technologies		
XAML	XML Application Markup Language for UI Design	
C#.Net	Front Behind Code Programming Language	
	LINQ-LAMDA	List Integrated Query with LAMDA
	MVVM	Model-View-ViewModel (**APPENDIX-C**)
JSON	JavaScript Object Notation Read Facebook Server Respose.	
XML-RSS	Extensible Markup Language with Really Simple Syndication	
REST	Restful web service accessible standard protocol	
XMPP	Extensible Messaging and Presence Protocol	
Oauth 2.0	Open Authentication with API_ID and API_HASH	

CH-3 Resource Requirements

3.1 Development time Requirement

Content		Description
Hardware	BIOS	Virtualization Technology Enabled
	Hyper- V	Hyper- V Should be Enabled in OS
	SLAT	ON
	HDD	8 GB
	RAM	512 MB
Software	OS	Windows Phone OS 8
	SDK	Windows Phone SDK 8.0
	IDE	Microsoft Visual Studio 2012 v.4
		Microsoft Blend 2012 v.4
	Used API	Microsoft Silverlight Toolkit v 4.0
		Telerik UI Controls API
		XFacebook C# Graph API
	Emulator	Windows Phone 8.0 Emulator (for more-APPENDIX-A)

Other Requirements:-

- FACEBOOK Professional Developer Account
  - For More(APPENDIX-B)

3.2 Run Time requirement

	Content	Description
Hardware	**On Emulator**	
	BIOS	Virtualization Technology Enabled
	Hyper- V	Hyper- V Should be Enabled in OS
	SLAT	ON
	HDD	8 GB
	RAM	512 MB
	On Mobile Phone	
	HDD	8 GB
	RAM	512 MB
Software	OS	Windows Phone OS 8

Other Requirements:-

- End User should have Facebook account to access Sky Messenger App.

CH-4 Features of Sky Messenger

- End User can authenticate using same Facebook Credentials.
- End User can list out all Facebook Friends from his/her account.
- End User can Filter Active (Online) Friends from his/her account.
- Fast and Fluid Instant Messaging Communication.
- Widely Supports All MICROSOFT Windows Phone 8 touches Device and Resolutions.
- FACEBOOK User can Update Status and Status will display to wall of FACEBOOK User.
- FACEBOOK User can track current location-position and Update it as Status based on GPS, Cell Tower, WI-Fi.
- Animated Metro Delight UI Experience.
- Every communication through Sky Messenger is in Encrypted Form nothing is Stored to Phone so there is no RISK and no Vulnerability to attack.
- Sky Messenger also Display Latest Headlines from INDIAN INTERNATIONAL Newspaper like
  - TIMES OF INDIA
  - ECONOMICS TIMES
  - INDIAN EXPRESS
  - THE HINDU
- Securely Cloud Connected and Everything is stored at Facebook Server, so there is nothing like RISK at Phone data.
- Design for Multi-Resolution Device 800 X 480, 1280 X 768, 1280 X 720.

Three Screen Resolutions

WVGA
800 x 480
15:9

WXGA
1280 x 768
15:9

720p
1280 x 720
16:9

Windows Phone

(**Screen II**- Device Resolutions)

CH-5 Prototyping

Screen 1. Facebook Authentication
www.facebook.com

Screen 2: Facebook friend list

Screen 3: Friend Chat
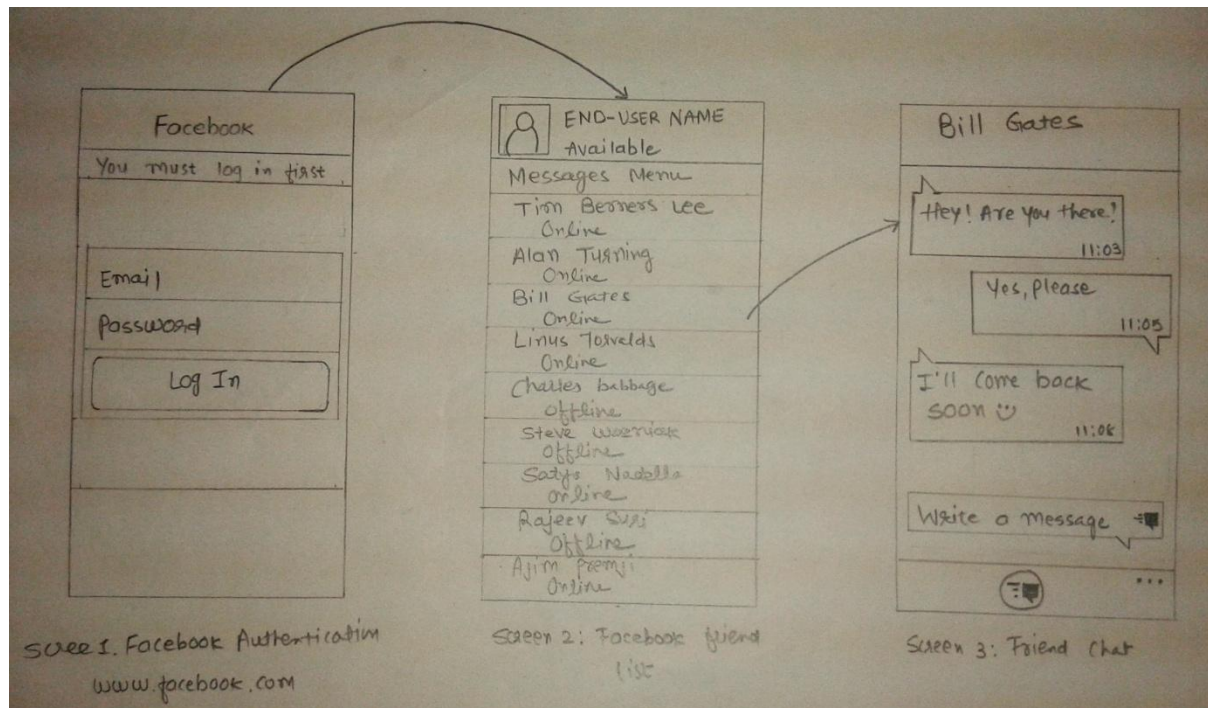
CH-6 Use cases

6.1 Procedure to Login into Sky Messenger

To Login into Sky Messenger is pretty much easy because it's uses same credential of Facebook because this is Facebook Messenger and it's doesn't ask End User to Enter Mobile Number and Verification code.
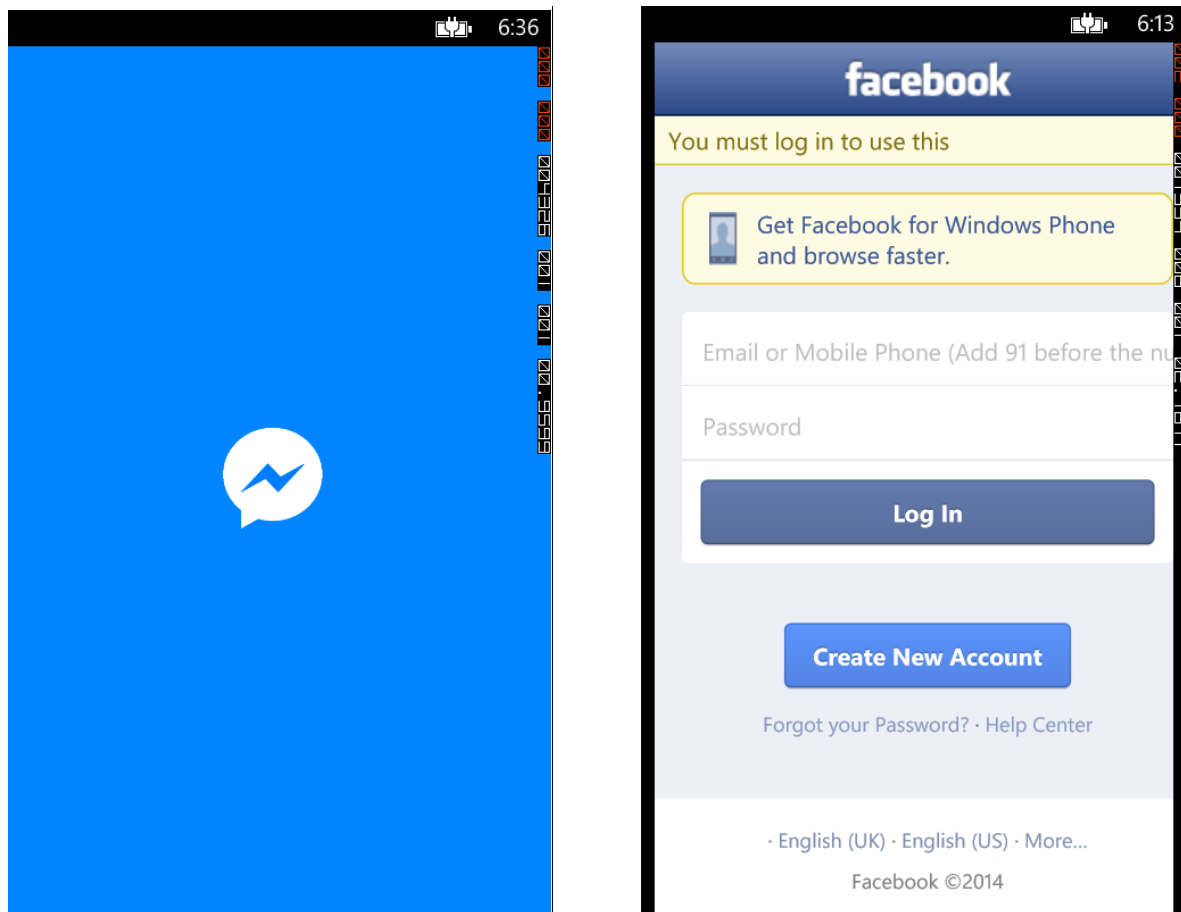
(**Screen 1**- Login to Facebook Messenger)

6.2 List out all Facebook Friends

As soon as User login successfully to facebook messenger automatically Sky Messenger Synchronized All Facebook Friends of End User, it takes some moment, Messenger will display End-User Profile Picture, Facebook Account Profile Name, and Facebook Status whether Available / Unavailable, and So End User can also communicate with Offline Facebook Friends.
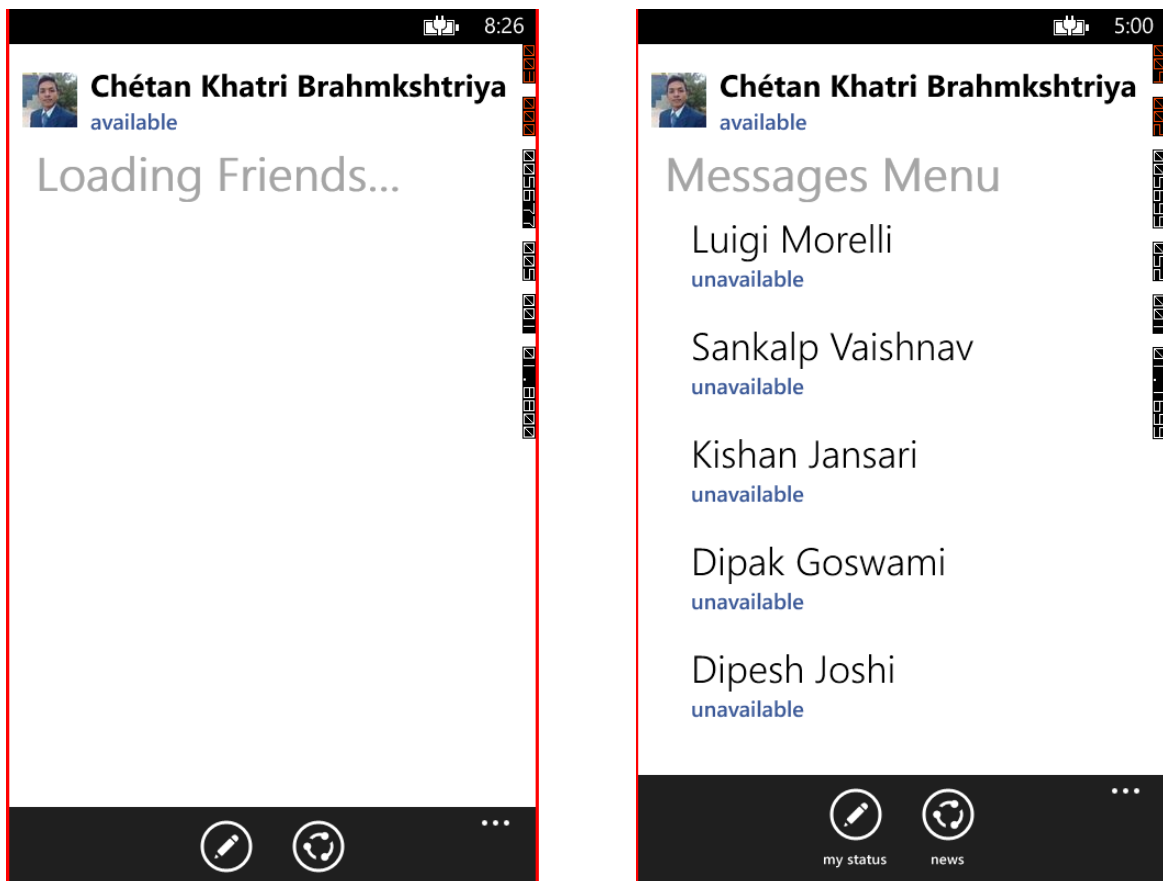
(**Screen 2**- Loading all Facebook Friends to Messages Menu)

6.2.1 Filter Active Friends

User can also filter Online (Active) Friends from list of all friends so End User can also communicate only with Online Friends, it will display Online Friend name with Status "**available**".
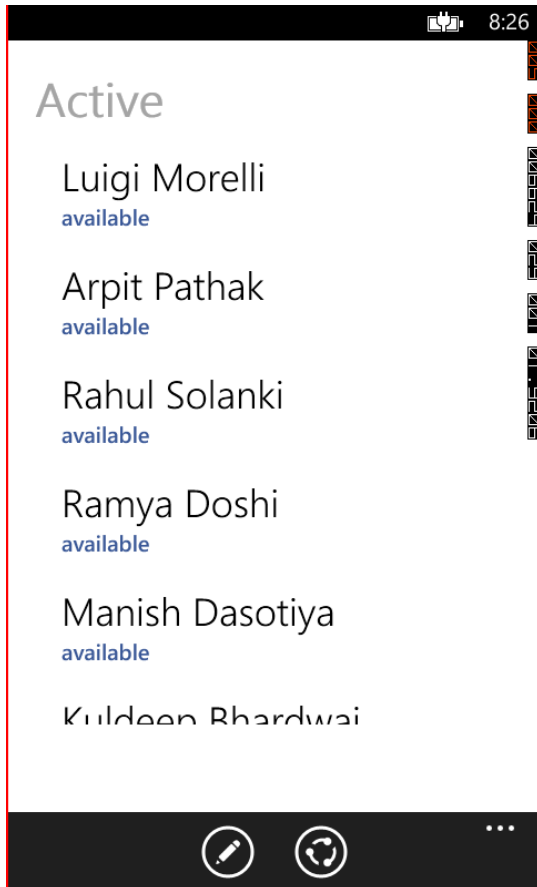
(**Screen 3**- Shows Active (Online) Friends List)

6.3 Update Facebook Status

End User can Update Facebook Status is Unique and Most widely necessary feature in Facebook Market.

To Update Status End User have to follow following steps:

1) Click on My Status Button
   a. User will redirect to Status page where user have to enter some text as status.
   b. Press "**accept**" icon button.
   c. Status will be post to User's facebook wall.
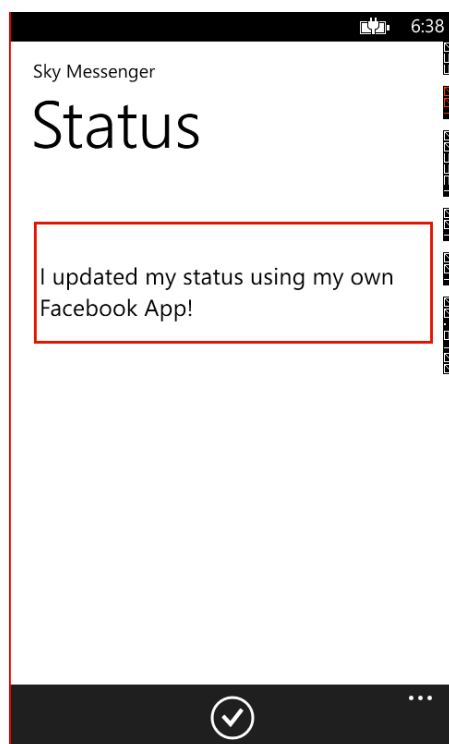
(**Screen 4**- Update Facebook Status)

6.4 Update Facebook Status as Current Location

Sky Messenger has very powerful and cool professional feature is to track Facebook User's current position & Location via 3 major techniques.

- GPS
- Cell- Towers
- WIFI

It will automatically convert geo-coordinates to address lines. And user can update status as address tracked by Sky Messenger.
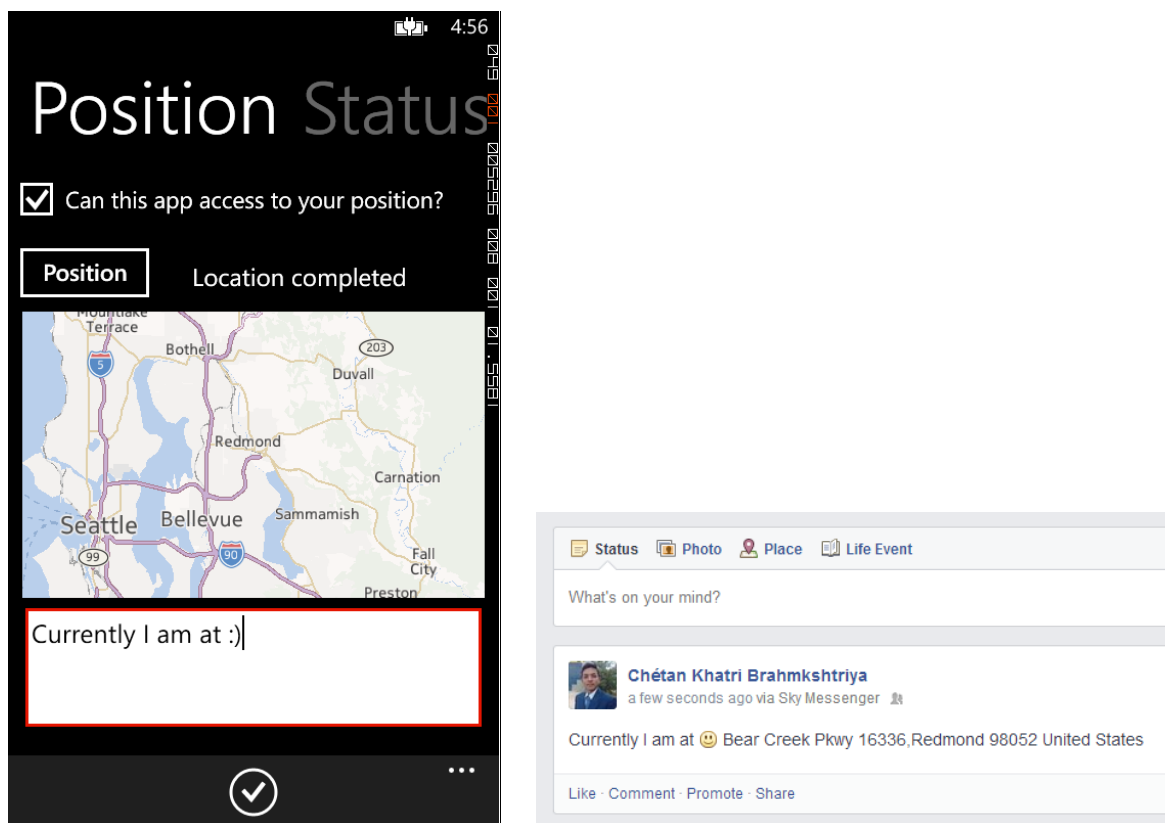
(**Screen 5**- Track User's Current Position Update it as Status)

6.5 Latest News Headlines

Sky Messenger is also has one of the popular and unique nice User experience feature is to show INDIAN INTERNATIONAL Newspaper's latest Headlines.

It will display headlines from popular Newspapers like bellows.

- TIMES OF INDIA
- ECONOMICS TIMES
- INDIAN EXPRESS
- THE HINDU

(**Screen 6**- Displays News Headlines)

CH-7 APPENDICES

<u>APPENDIX-A</u>   <u>Configuring Windows Phone 8 Emulator</u>

<u>Getting Started Developing for Windows Phone 8.0</u>

Development PC Requirements

- Your computer must meet the following system requirements to run Windows Phone SDK 8.0:

Supported operating Systems	Windows 8 64-bit (x64) client versions
Hardware	8 GB of free disk space 4 GB of RAM (recommended) 64-bit (x64) motherboard
Windows Phone Emulator	Windows 8 Pro or higher (for Hyper-V) and Second Level Address Translation (SLAT)

Second Level Address Translation (SLAT)

- SLAT is required to run the WP8 emulator.
- PCs that support SLAT are Intel-based processors that start with i (e.g., i3, i5, i7, i9) or any CPUs based on the Nehalem, Westmere, or Sandybridge micro-architectures.

- To determine if your machine supports SLAT, perform the following steps:
  - Download SysInternals/TechNet CoreInfo at http://technet.microsoft.com/en-us/sysinternals/cc835722
  - Run "coreinfo -v"
    - If you have "*" next to "EPT" you should be good.
    - If you have a "-" next to EPT then you should start looking for a new computer.
- **Coreinfo Output**
  - If you see the below, you're in good shape for running the WP8 emulator on this machine:

  - If you see the below, you can't run the WP8 emulator on this machine:

<u>APPENDIX-B</u>   <u>Configuring Facebook Developer App.</u>

For Developing Facebook app, you (developer) should have facebook account, so you can authorize to communicate with Facebook Server, Developer must have to follow following steps to Configure Facebook App.

I.   Go to https://developer.facebook.com

II.   If you don't have Facebook account then goes to http://www.facebook.com and sign up for creating facebook account.

III.   Now you are at Dashboard of facebook developer developer.facebook.com

   a. Go to Apps Menu

      i.   Create New Apps

      ii.   Enter All Required Details

      iii.   After entering all necessary details Facebook Graph API returns you API_ID and API_SECRET

      iv.   With help of both credential you will get ACESS_TOKEN

      v.   With help of ACCESS_TOKEN you can execute each and every methods of Facebook Graph API to chat.facebook.com web server.

      vi.   Where dashboard displays how many current users of your application and displays date wise hits for an app.
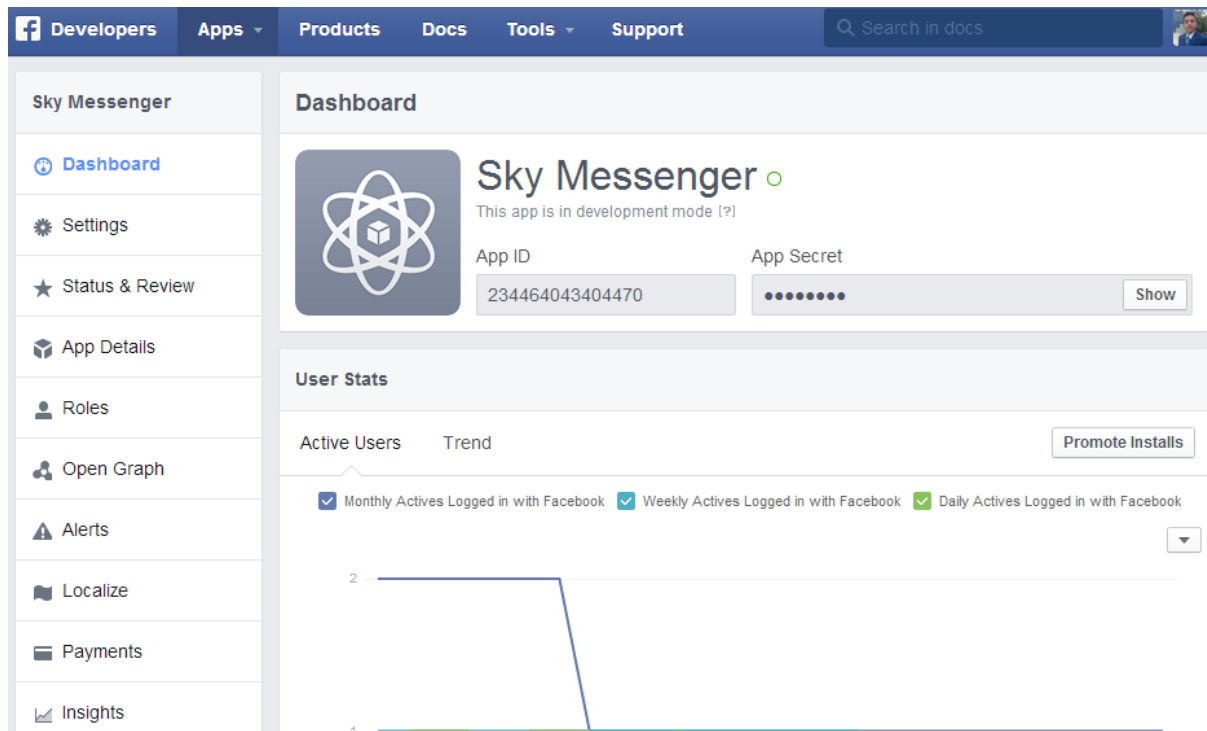
(**Screen 7**- Facebook Developer account dashboard)

APPENDIX-C   Implementation of MVVM Architecture

- MVVM stands for Model – View – ViewModel
- MVVM is an architectural pattern that employs Data binding and strict separation of concerns.
  - o **Model** – a class or classes that exposes the data of your application, either fetched from local data storage or externally such as a web service.
  - o **ViewModel** – a class or a class that has properties and methods that can be used to databind to a View.
  - o **View** – a class or classes that implement the presentation functionality of your application, displaying data and accepting user input. A View should contain no application logic and is bound to a ViewModel class.
- Implementing the Model-View-ViewModel Pattern in a Windows Phone Application:
  http://msdn.microsoft.com/en-us/library/windowsphone/develop/gg521153(v=vs.92).aspx
- MVVMLite framework: http://galasoft.ch/mvvm/ from Galasoft Pvt Ltd.

<u>APPENDIX-D</u>   <u>Implementation of Silverlight Toolkit</u>

Silverlight toolkit formally known as "Windows Phone Toolkit", it's mainly used to give animation to controls so it look like alive & delight motion effects.

- **Animations** are a key part of the metro experience. With the focus on text and minimal chrome it's important to add animations to make the UI have some life. They also "surprise and delight the user" as the Metro marketing material would say.
- A product of the Microsoft Windows Phone team.
- The Windows Phone Toolkit adds new functionality 'out of band' from the official product control set.
- Includes full open source code, samples, documentation, and design-time support for controls for Windows Phone.

Page Transitions and TiltEffect

There are many transitions available from the Silverlight toolkit:

- Turnstile Transition
- Swivel Transition
- Slide Transition
- Roll Transition
- Rotate Transition
- Continuum Effect Transition

Turnstile Transition

This transition is similar to turning a page from one corner. A turnstile transitions is the most common and simplest to use.

It has four modes BackwardIn, ForwardIn, BackwardOut and ForwardOut. Like the name suggests these modes are applicable for while navigating in and navigating out.

Swivel Transition

A Swivel Transition is exactly similar to a turnstile transition from a developer's point of view. When this transition is applied it appears as if the page comes to the front or from the back vertically.

Slide Transition

A Slide Transition makes the page disappear or appear in the direction specified by the mode. This transition has many modes, making it complex to use.

The different modes are as follows:

- SlideUpFadeIn
- SlideUpFadeOut
- SlideDownFadeIn
- SlideDownFadeOut
- SlideLeftFadeIn
- SlideLeftFadeOut
- SlideRightFadeIn

- SlideRightFadeOut

Rotate Transition

A Rotate Transition produces a nice effect which you can control very easily using the modes that it provides. Like the Slide transition, the Rotate Transition also has a variety of modes:

- In90Clockwise
- In90Counterclockwise
- In180Clockwise
- In180Counterclockwise
- Out90Clockwise
- Out90Counterclockwise
- Out180Clockwise
- Out180Counterclockwise

Continuum

The continuum animation is used to create a sense of continuing context from one screen to another. The music + videos app does this when you click one of the initial menu options like "music" or "podcasts" and the text animates to the secondary page to become the title.
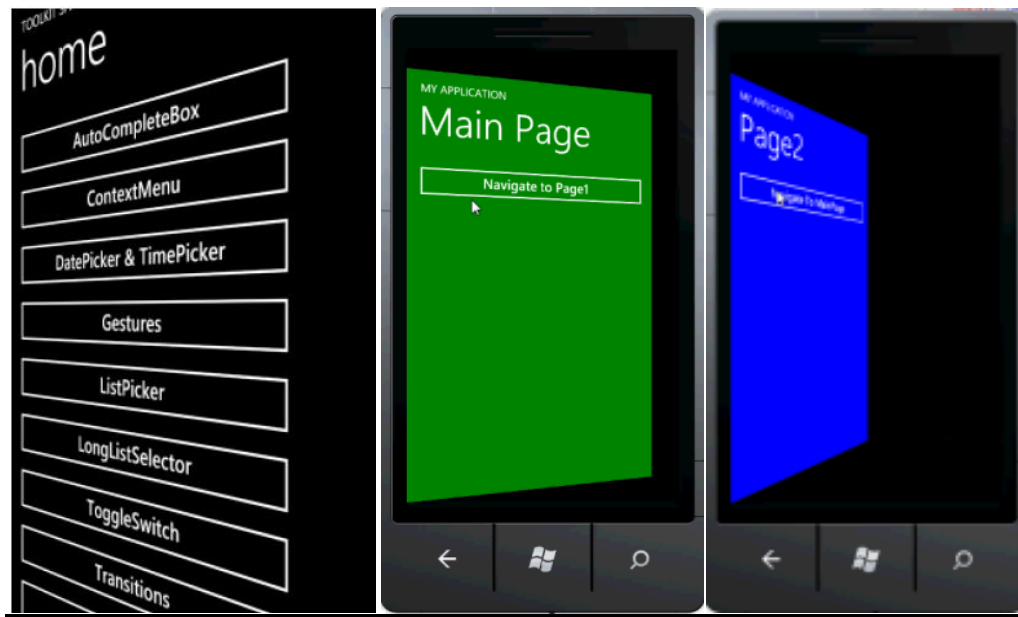
(**Screen 8** – Silverlight page transition effects)

APPENDIX-E   Tracking Current Position-Location

There is couple of ways to find Current position of mobile but most widely used mechanisms are as below.

Techniques	Accuracy	Power	Speed
GPS	+	-	-
Cell Towers	-	+	-
Wi-Fi	+/-	+/-	+/-

Most widely used techniques to find location is with Geo-Coordinates.

Another ways to find position of Mobile Phone.

Enable Location Tracking in the Background

- Normally, when your user navigates away from your app, it is made dormant and all activity – including location tracking – is suspended.
- In Windows Phone 8, a location-tracking app can continue to run in the background after the user navigates away, as long as the app continues to actively track location.
- This feature enables scenarios such as an app that provides turn-by-turn directions or a run tracker.

  Windows Phone 8 Supports Different types of MAPS Controls to show position of End User.

Cartographic Mode

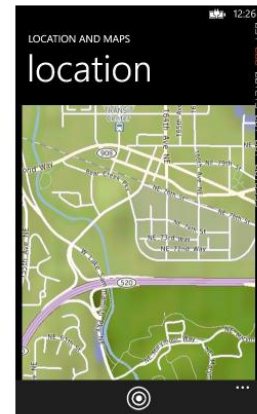- Set the cartographic mode of the map with the CartographicMode property
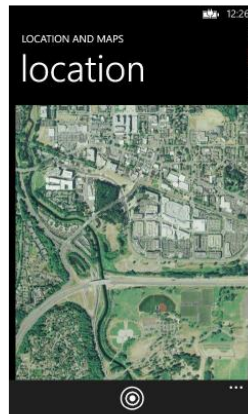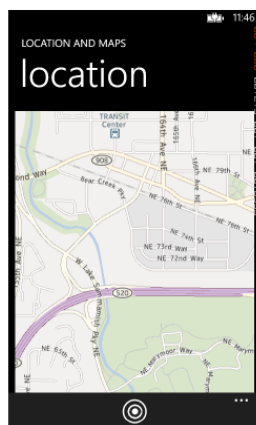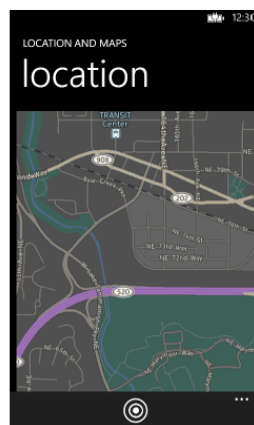

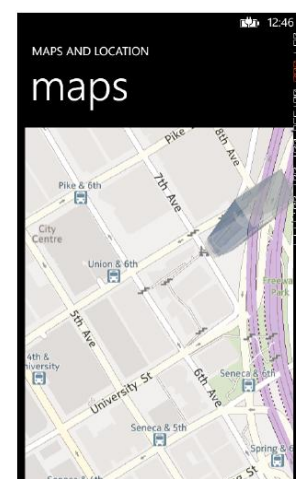| Road (default) | Aerial | Hybrid | Terrain |

- ## Light and dark Color modes

You can display the map in a light or dark color mode by setting the ColorMode property.

| Light (default) | Dark |

CH-8 Bibliography and References

An Introduction to Windows Phone Application Development

http://www.microsoftvirtualacademy.com/training-courses/windows-phone-8-apps-development-jumpstart#?fbid=YOE-MDCrn2F

Emulator

http://msdn.microsoft.com/en-us/library/windowsphone/develop/ff626524(v=vs.105).aspx

http://msdn.microsoft.com/en-us/library/windowsphone/develop/ff402563(v=vs.105).aspx

An Introduction to windows phone 8 Platform

http://channel9.msdn.com/Events/Developer-Movement/PhoneCamp/PHNC1

http://channel9.msdn.com/Series/Windows-Phone-8-Development-for-Absolute-Beginners/Part-1-Series-Introduction

http://www.youtube.com/watch?v=wx2hshc230s

http://www.3dbuzz.com/training/view/intro-to-windows-phone-8-dev

Facebook MS.Net API

http://facebooksdk.net/

https://github.com/facebook-csharp-sdk

https://www.facebook.com/csharpsdk

http://www.codeproject.com/Articles/705780/Talk-to-Facebook-Graph-API-VIA-FQL-Csharp

Facebook Graph API

https://developers.facebook.com/docs/graph-api

https://www.facebook.com/about/graphsearch

https://developers.facebook.com/docs/graph-api/reference/v2.0

Tracking location-position Windows Phone 8

http://msdn.microsoft.com/en-us/library/windowsphone/develop/ff431800(v=vs.105).aspx

http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj247548(v=vs.105).aspx

http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj206956(v=vs.105).aspx

XML-RSS Parsing in Windows Phone 8

http://msdn.microsoft.com/en-us/library/windowsphone/develop/hh487167(v=vs.105).aspx

http://forums.wpcentral.com/windows-phone-apps/203920-best-rss-reader-windows-phone-8-a.html

http://drew5.net/2014/03/12/windows-phone-app-studio-part-2-rss-reader-fix/

http://code.msdn.microsoft.com/wpapps/RSS-Reader-in-Windows-afa86457#content

Windows Phone Toolkit

http://www.youtube.com/watch?v=N49y6ADPjNQ

http://msdn.microsoft.com/en-us/library/windowsphone/develop/ff402523(v=vs.105).aspx

http://msdn.microsoft.com/en-in/windows/apps/bg127574.aspx

http://developer.nokia.com/community/wiki/How_to_use_Cimbalino_Windows_Phone_Toolkit_-_NavigationService

http://channel9.msdn.com/Series/Introducing-Windows-8/Introduction-to-the-Multilingual-App-Toolkit

http://msdn.microsoft.com/en-in/silverlight/bb187452.aspx

http://silverlight.codeplex.com/

http://en.wikipedia.org/wiki/Microsoft_Silverlight

http://blogs.msdn.com/b/eternalcoding/archive/2011/10/04/silverlight-toolkit-september-2011-for-silverlight-5-whats-new.aspx

Silverlight Page Transition Effects

http://stackoverflow.com/questions/15720832/using-toolkittransitionservice-in-windows-phone-8

http://worldwidecode.wordpress.com/2011/08/05/page-transitions-in-windows-phone-7-part-2/

http://worldwidecode.wordpress.com/2011/07/21/page-transitions-in-windows-phone-7/

http://silverlight.codeplex.com/releases/view/94435

http://mobisoftinfotech.com/resources/blog/page-transition-effects-in-windows-phone-7/

Telerik Control

http://www.telerik.com/products/windows-phone.aspx

LINQ-LAMDA

http://msdn.microsoft.com/en-us/library/bb397687.aspx

http://stackoverflow.com/questions/16185514/linq-query-or-lambda-expression

http://stackoverflow.com/questions/20212162/in-clause-in-lambda-expression

http://cplus.about.com/od/learnc/a/Linq-Tutorial-Two-Lambda-Expressions.htm

MVVM Architecture

http://msdn.microsoft.com/en-us/library/windowsphone/develop/gg521153(v=vs.105).aspx

http://msdn.microsoft.com/en-us/library/windowsphone/develop/hh286405(v=vs.105).aspx

http://msdn.microsoft.com/en-us/library/windowsphone/develop/jj721615(v=vs.105).aspx

http://blog.galasoft.ch/posts/2014/04/building-a-universal-application-for-windows-phone-8-1-and-windows-8-1-with-mvvm-light/

http://codeproject.tv/video/5036055/setting-up-a-command-mvvm-in-windows-phone-8

http://www.codeproject.com/Articles/644691/MVVM-for-Windows-Phone-Developers-Use-it-Guys-Part

RESTful Web services

http://www.asp.net/web-api/overview/web-api-clients/calling-web-api-from-a-windows-phone-8-application

http://java.dzone.com/articles/building-rest-api-and

http://blogs.technet.com/b/dpeindia/archive/2013/12/11/using-rest-apis-in-windows-phone-store-apps.aspx

http://blogs.msdn.com/b/wsdevsol/archive/2014/01/09/consuming-rest-services-in-your-windows-store-and-phone-applications.aspx

XMPP

http://xmedianet.codeplex.com/discussions

http://developer.nokia.com/community/discussion/showthread.php/244811-XMPP-Media-Library-for-windows-phone-8

http://social.msdn.microsoft.com/Forums/wpapps/en-US/5101f9f7-b239-4181-9c66-7c77198bb0d8/using-xmpp-library-for-windows-phone-8?forum=wpdevelop

http://xmpp.org/xmpp-software/clients/

http://forums.wpcentral.com/windows-phone-apps/262354-xmpp-client-app.html

http://www.windows8downloads.com/win8-xmpp.html

Oauth 2.0

http://developer.nokia.com/community/wiki/OAuth_on_Windows_Phone

http://solutiondesign.com/google-oauth-2-0-via-windows-8-phone/

http://pieterderycke.wordpress.com/2013/03/11/google-oauth-2-0-on-windows-phone/

http://java.dzone.com/articles/google-oauth-20-windows-phone

RSS Feed INDIAN INTERNATIONAL Newspaper

http://timesofindia.indiatimes.com/rssfeedsdefault.cms

http://economictimes.indiatimes.com/rssfeedsdefault.cms

http://www.thehindu.com/navigation/?type=rss

http://syndication.indianexpress.com/rss/latest-news.xml

-------------------THANK YOU----------------