Nokia X

Same code base.
New user base.

NOKIA X
SOFTWARE PLATFORM

DEVELOPER OVERVIEW:
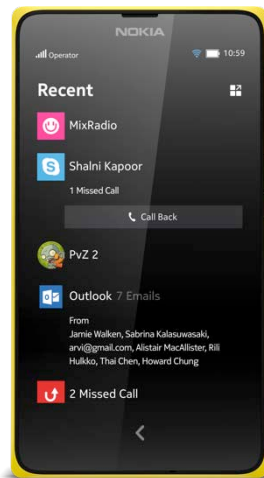
- PLATFORM
- TOOLS
- PORTING

WHY NOKIA X

+

+

ACCESS THE WORLD OF ANDROID COMPATIBLE APPS

DIFFERENTIATED WITH FIRST PARTY NOKIA AND MICROSOFT APPS AND SERVICES.

FLOW BETWEEN YOUR FAVOURITE APPS IN A SMOOTHER, FASTER WAY

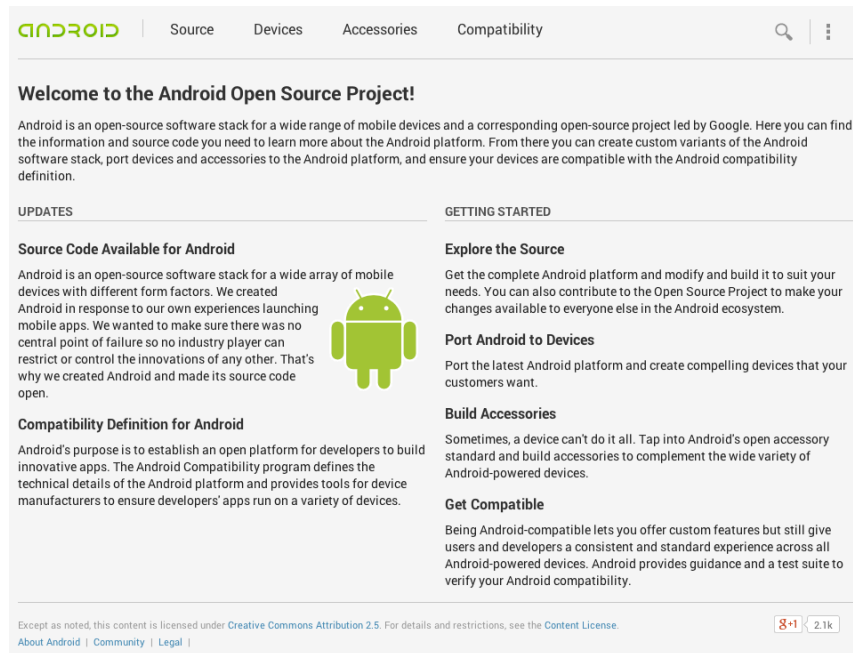FASTLANE GIVES YOU FREEDOM, SPEED AND CONTROL.

STANDOUT DESIGN THAT'S BUILT TO LAST

IT'S A NOKIA.

NOKIA Developer

WHAT IS NOKIA X PLATFORM

- AOSP – Android Open Source Project
  - http://source.android.com
  - Android 4.1.2 API Level 16
- Nokia Services and Associated APIs
  - HERE Maps
  - Nokia In-App Payment
  - Nokia Push Notifications
- Nokia X User Experience
- Nokia Store publishing
- Inexpensive hardware to feel the devices gap between 50$ - 100$

NOKIA X SOFTWARE PLATFORM

A new platform built with Android Open Source Project at its core.. It combines a popular smartphone software base with Nokia's global reach and strength to create new opportunities for your apps.

Android 3rd party applications

Nokia X
Software Platform 1.0

Android Open Source Project
4.1.2 (API level 16)

IAP API	HERE API	NNA API
Nokia UX		Nokia Store
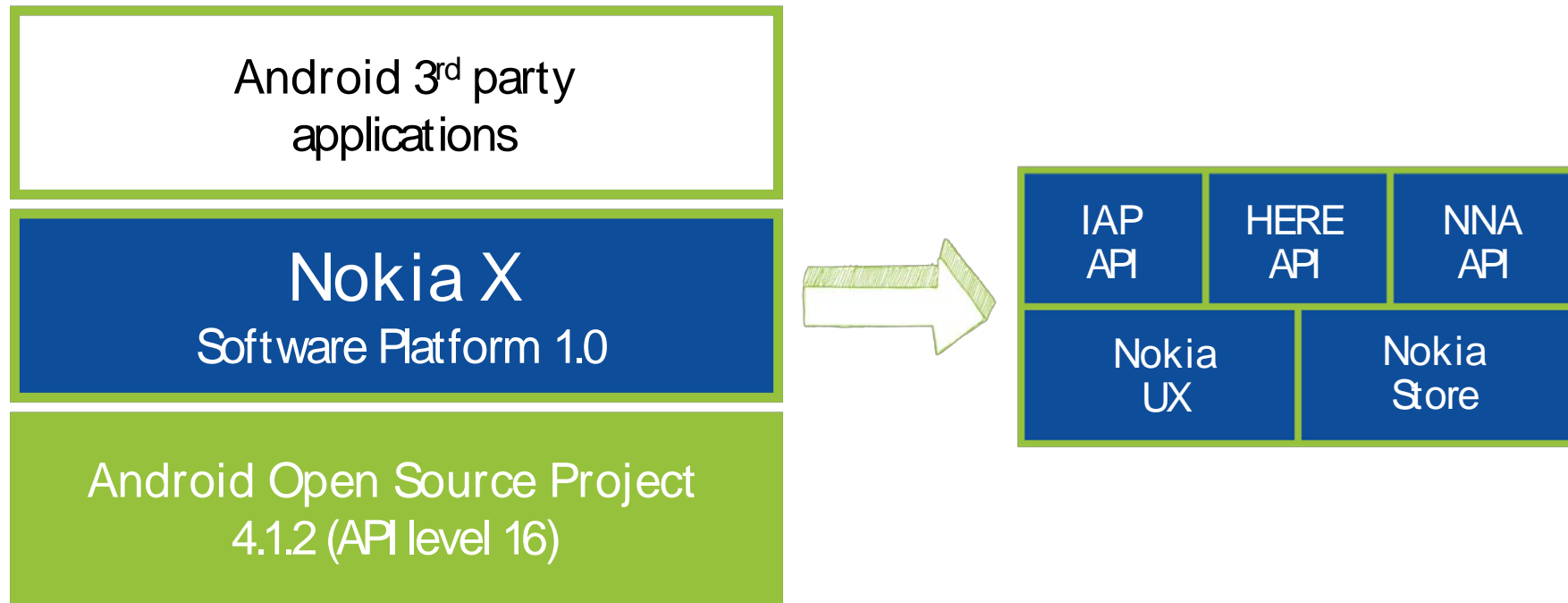
NOKIA Developer

NOKIA X SOFTWARE PLATFORM 1.0

- When planning apps for Nokia X platform, developers should assume following hardware capabilities:

    - 4 inch screen (800*480 FWGA resolution)

    - Capacitive Dual-Touch

    - 1GHz Cortex A5 dual core processor (Qualcomm S4 Play, MSM8225), GPU 350Mhz (Adreno 203)

    - One front hardware back-key

    - 3MP camera

    - 7.2Mbps 3G

    - 100 Mbps Wi-Fi

    - 4GB internal memory, 512MB RAM, 32GB Micro SD slot

    - 3D Accelerometer

    - OpenGL ES2 support

    - *Not having*: Gyroscope, magnetometer, NFC

NOKIA X TECHNICAL SPECIFICATIONS

Nokia X

4" screen (800*480)
1GHz Dual core CPU
3MP camera
7.2Mbps 3G
100 Mbps Wi-Fi
Fastlane UI
4GB internal memory,
512MB RAM, 32GB Micro SD slot
API level 16 (Android version 4.1.2)

Nokia X+

4" screen (800*480)
1GHz Dual core CPU
3MP camera
7.2Mbps 3G
100 Mbps Wi-Fi
Fastlane UI
4GB internal memory, **768MB RAM**, 32GB
Micro SD slot
API level 16 (Android version 4.1.2)

Nokia XL

5" screen (800*480)
1GHz Dual core CPU
5MP AF camera
1MP front facing camera
7.2Mbps 3G
100 Mbps Wi-Fi
Fastlane UI
4GB/768MB memory
API level 16 (Android version 4.1.2)

DEVELOPMENT ENVIRONMENT

- Standard Android SDK:
- Eclipse + ADT (Android Developer Tools)
  - or
- Android Studio (IDEA)
- Nokia Add-Ons and Extras
- Supported:
  - Windows, Mac OS X, Linux
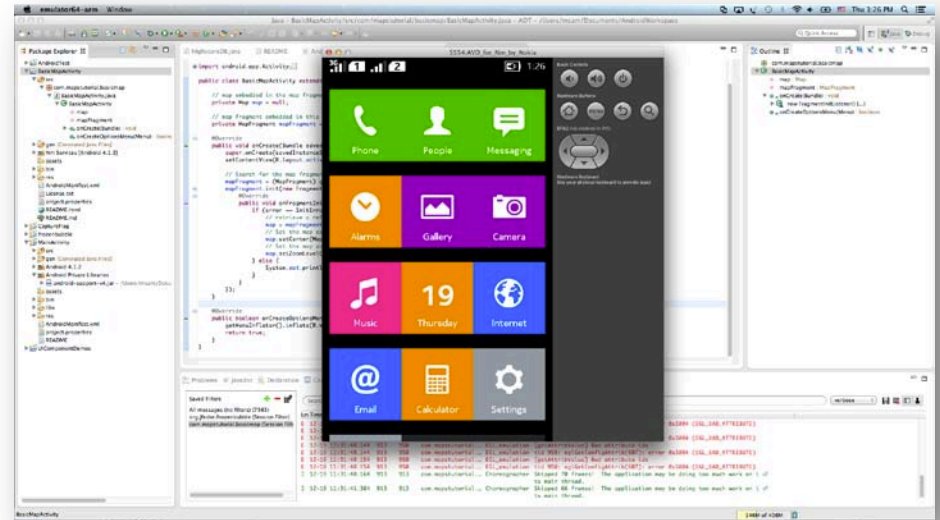
NOKIA X EMULATOR

- An API level 16 Android Virtual Device (AVD) with the Nokia X services enabled
- Both ARM & X86 images, works with ADB
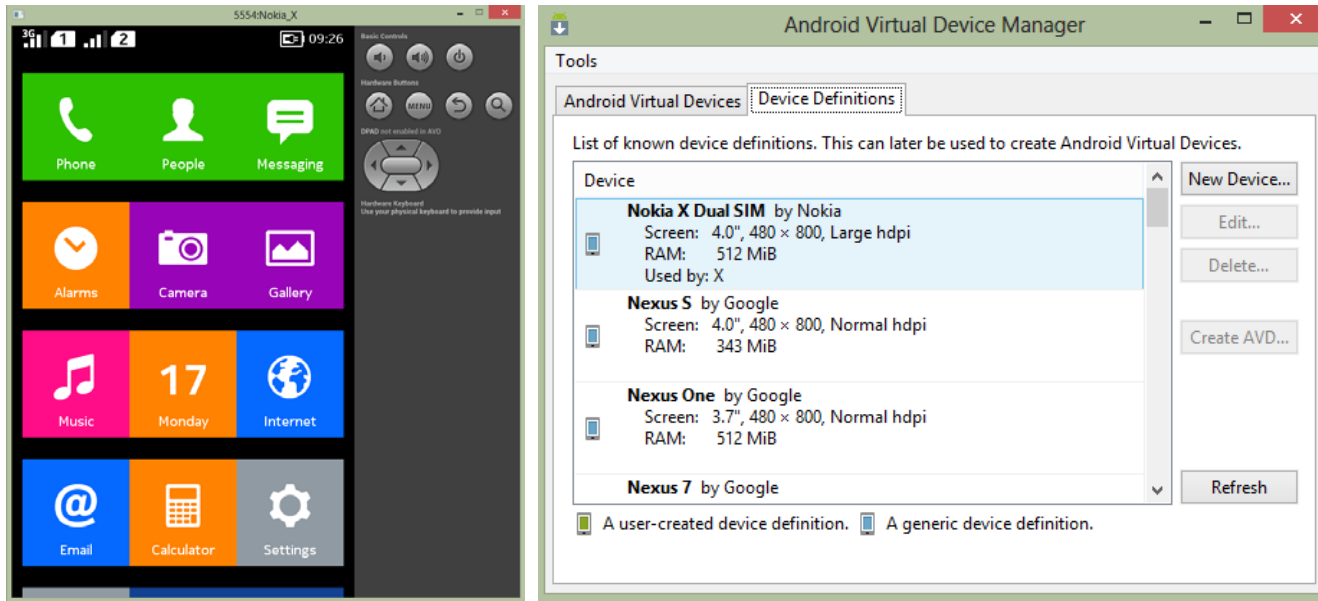
PORTABILITY (I)

- Minimal effort or *no porting effort at all* for Android applications at the same API level 16:
    - App doesn't use Google specific platform APIs
    - Same binary can be used on Nokia X or any Android device
    - Unity 3D games
    - Applications utilizing native libraries with NDK (as long as correct architecture is in use)

PORTABILITY (II)

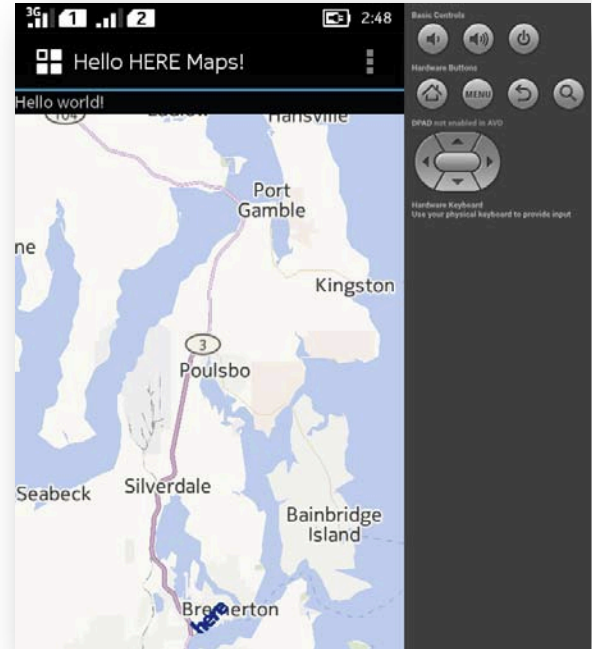- Porting required:
  - App uses Google APIs, not found in AOSP
  - For apps using APIs such as Google Billing, Google Maps, Cloud to Device Messaging (C2DM) and Google Cloud Messaging (GCM) Nokia provides wrappers and porting documentation for following services:
    - HERE Maps
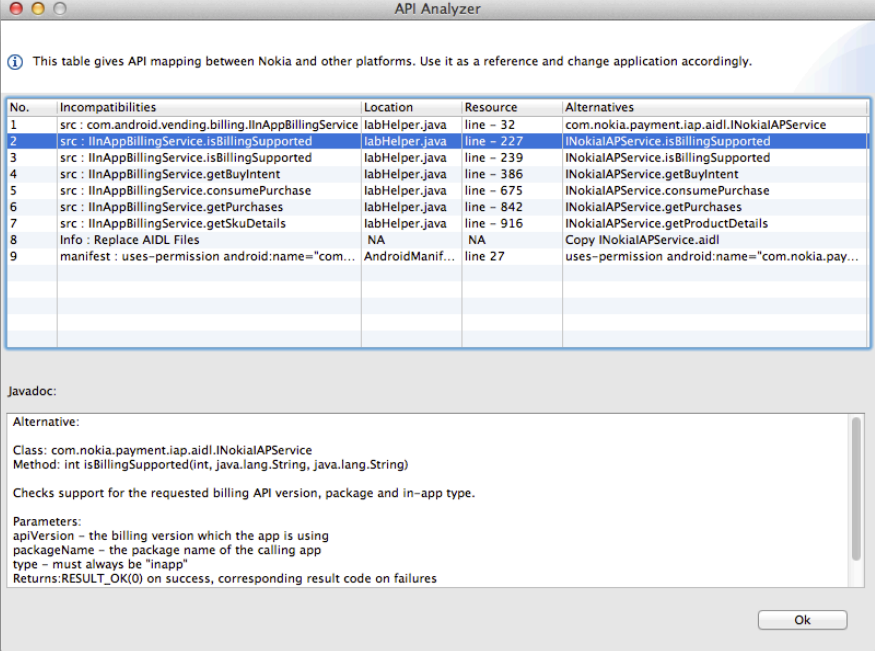   - Nokia In-App Purchase
    - Nokia Push Notifications

NOKIA X PORTING WORKFLOW

- Verify general compatibility (Nokia X Analysis tool)

- Install Nokia X SDK

- Adapting to Nokia Services

- Polish and UI considerations

- Test the application
    - Check application in Nokia X Emulator
    - Check application with Remote Device Access
    - Check application locally

- Publish

NOKIA Developer

NOKIA X ANALYSIS TOOL

- You can use the Nokia X Analysis Tool to analyze and check whether alternate Nokia-specific service APIs are available for use instead of default Google service APIs.

- The tool also provides a mapping table that you can use to directly go the respective source code where the API change to a Nokia-specific API is needed.

- Once the tool is launched, it scans the source code and generates a one-to-one API mapping between the default Google service APIs and the relevant Nokia-specific service APIs.

NOKIA X PLATFORM DIFFERENTIATORS

HERE MAPS
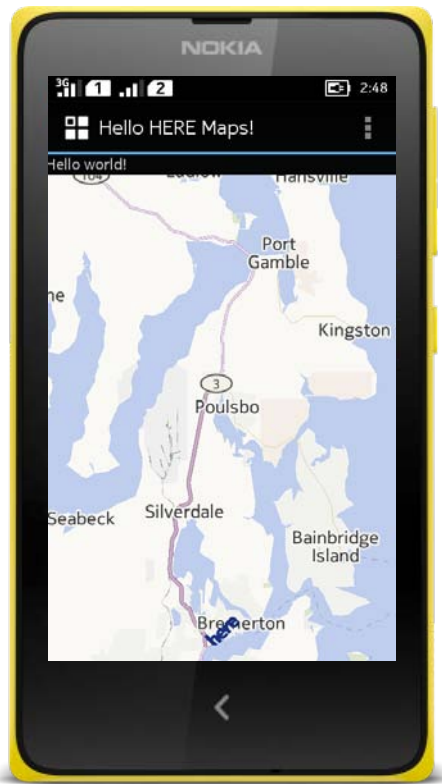
WHAT IS THE HERE API FOR NOKIA X

- The HERE API for Nokia X Software Platform provides a set of programming interfaces that enable developers to build immersive Nokia X Software Platform applications by leveraging a powerful and flexible mapping platform.

- Through these APIs, developers can add rich location features such as routing, interactive maps, and searching a global Place database to their applications. The powerful client-side HERE API for Nokia X Software Platform also includes a sophisticated engine for rendering map data and route calculation.

- In addition to downloading map data dynamically as needed, it also supports **offline maps** through use of previously cached map data or previously downloaded map packages.

NOKIA X PLATFORM DIFFERENTIATORS

NOKIA IN-APP PAYMENT

NOKIA Developer
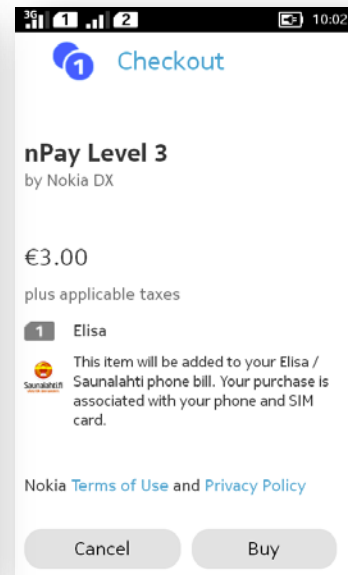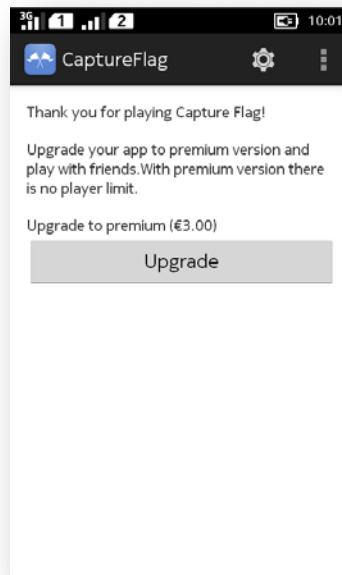
NOKIA IN-APP PAYMENT API

- Nokia In-App Payment offers simple, seamless integration of a payment event into an app published on Nokia Store.

- The key features of Nokia In-App Payment are:
  - Requesting details of purchasable products.
  - Initiating the purchase flow.
  - Marking products as consumed from the app.
  - Requesting details of already purchased products.

NOKIA Developer

SYSTEM DESCRIPTION

- Nokia In-App Payment interface (INokiaIAPService.aidl) handles the communication between your apps and the Nokia In-App Payment Enabler.

- The Nokia In-App Payment Enabler is responsible for the payment processing and interaction with Nokia Store. It also implements all UIs for payment transactions.

- Nokia Store provides the repository with product details and the mechanism for making the payment through operator billing.
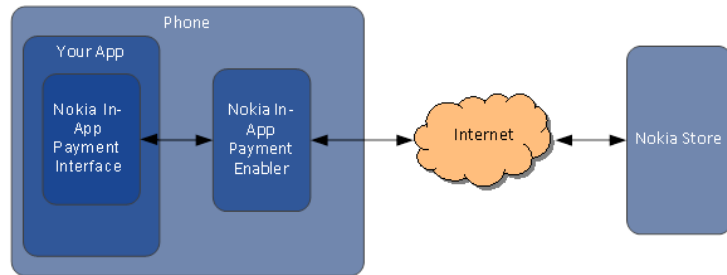
NOKIA X PLATFORM DIFFERENTIATORS

NOKIA NOTIFICATIONS

NOKIA Developer

NOKIA NOTIFICATIONS (I)

- Nokia Notifications enables real-time push notifications to your application running on Nokia X software platform. Notification is a message that is sent from a specific notification service to an application installed on the device. Nokia Notifications API consists of two parts: Nokia Notifications Client API (Client API) is the Java API enabling an application to register to a service, and receive and handle notifications. Nokia Notifications Service API (Service API) defines the communication method between a 3rd party service and Nokia Notifications service.
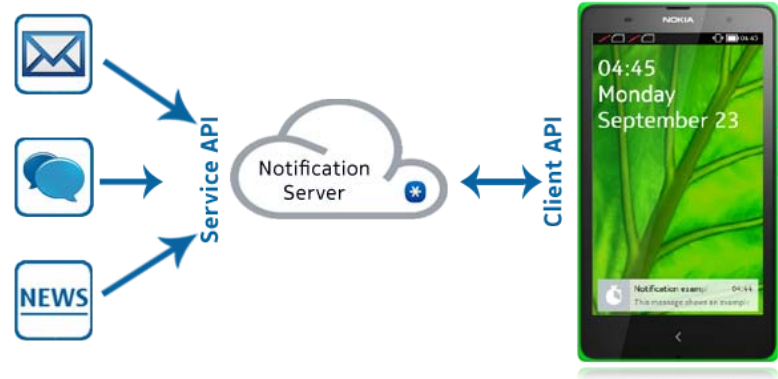
NOKIA NOTIFICATIONS (II)

- The process of receiving notifications is straightforward. The application, implementing Client API, registers itself for receiving notifications by sending service specific *sender identification* (sender ID) to Nokia Notifications server. Nokia Notifications server responds by sending a device specific *registration identification* (registration ID, RID) to the client device. The client application then provides the RID for the 3rd party server, which implements Service API. Finally, the 3rd party server can send notifications, via Nokia Notifications server, for the devices whose registration ID it knows. It is the responsibility of the developer to implement a) client application with Client API and b) server with Service API.
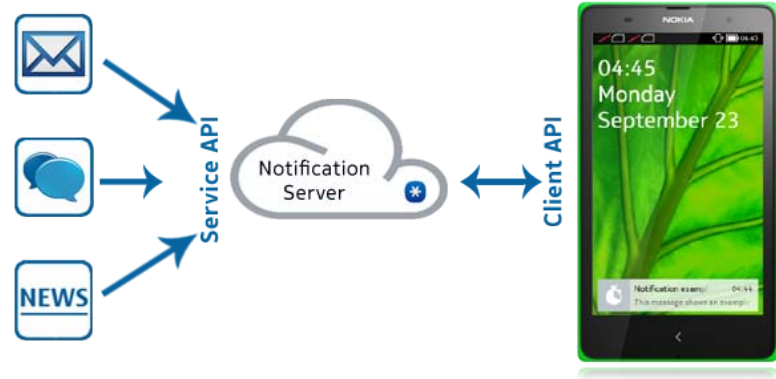
DEVELOPER RESOURCES

Nokia X website

http://developer.nokia.com/nokia-x

Code samples

http://developer.nokia.com/resources/code-sample/capture-the-flag-v1.0

Capture the Flag game is a Nokia example application demonstrating the use of Nokia services on Nokia X software platform: HERE Maps, Nokia Notifications and Nokia In-App Payment.

Nokia X Tutorials (video clips)

http://www.youtube.com/playlist?list=PLuc1ZjZXgzePUQmR9X8p59pe629668ACy

NokiaX

Same Code Base.
New User Base.

Thanks!

Michael Samarin
Director,
Developer Training and Evangelism
Futurice