

Getting Started with Tizen SDK : How to develop a Web app

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Introduction to Tizen SDK

Tizen Platform (1/2)

Application

Web Applications

Native Applications

Web Framework

W3C/HTML5

Video Touch
CSS3 WebGL
Worker ...

Device APIs

BT Call
LBS NFC
Msg ...

Web Runtime

Core Framework

Public API

Application Framework

Graphics & UI

Multimedia

Web

Telephony

Messaging

PIM

Location

Security

Connectivity

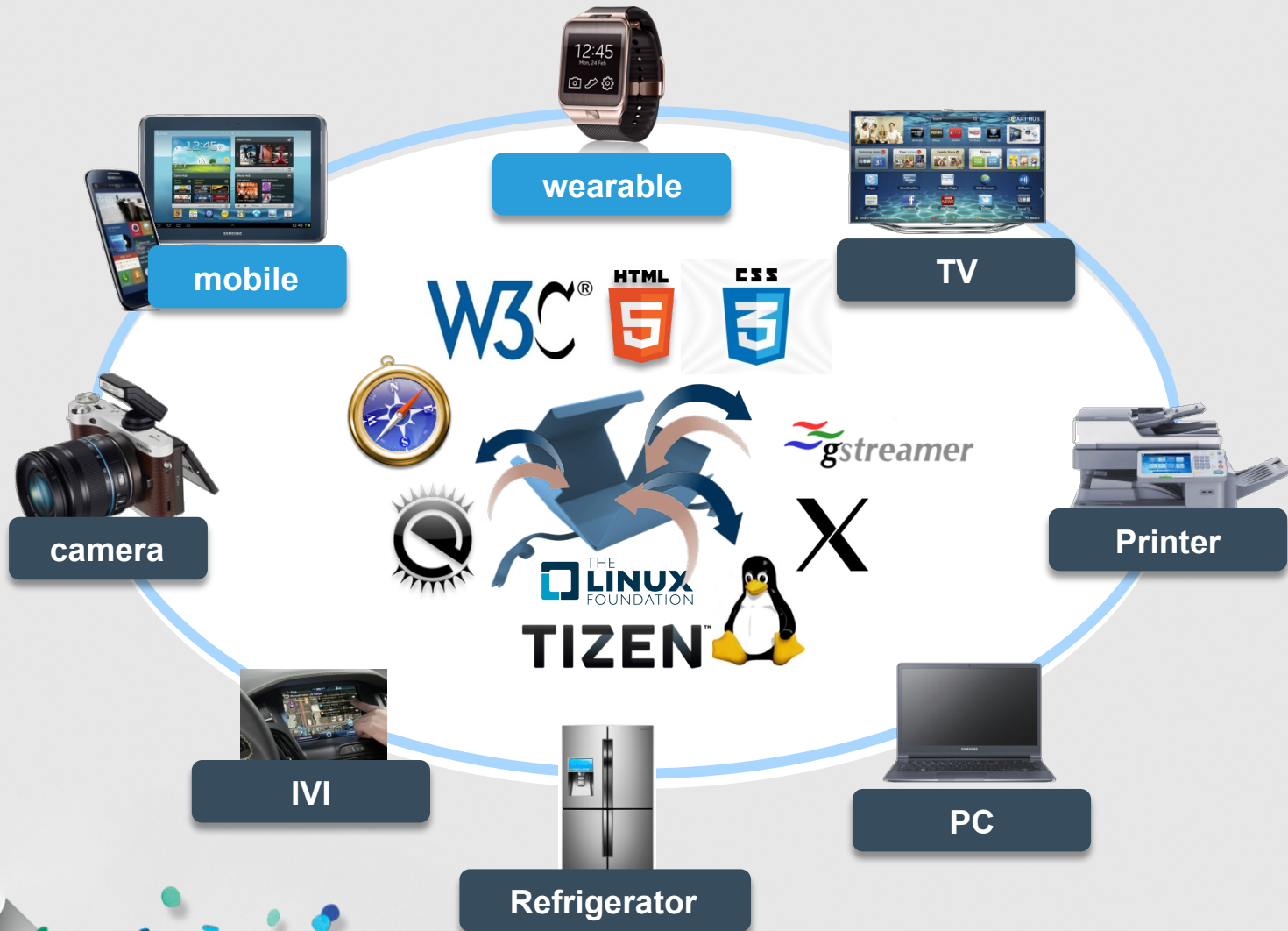
System

Base

Kernel & System SW

Linux Kernel & device drivers

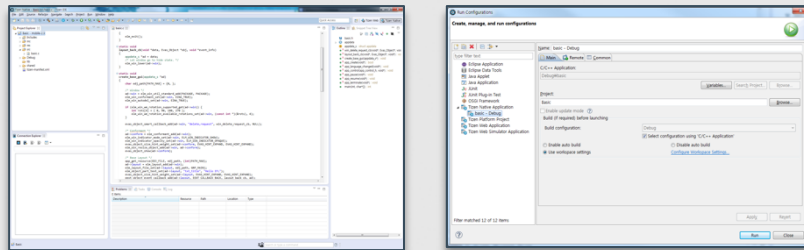
Tizen Platform (2/2)



Tizen SDK Features – an Overview

- An Integrated set of Tools for Developing The Tizen App
 - IDE, GUI Builder, Emulator/Simulator, Debugging, Profiling, Add-On SDK

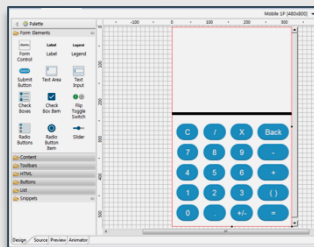
IDE for Web and Native



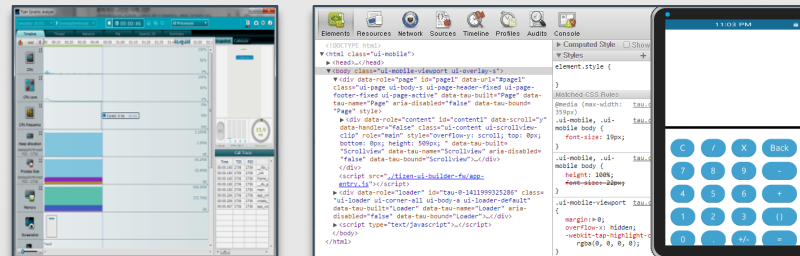
Emulator acting like device



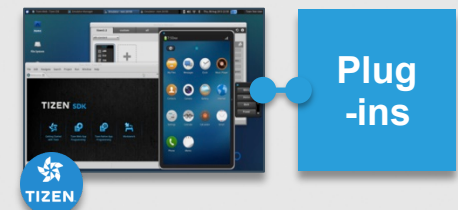
GUI Builder (Web)



Performance Profiling & Debugging

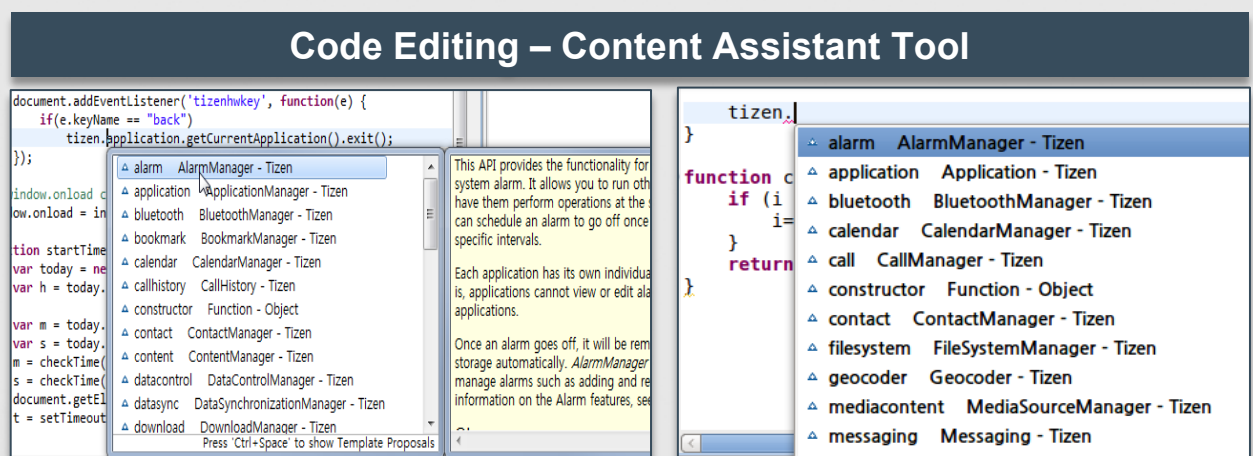
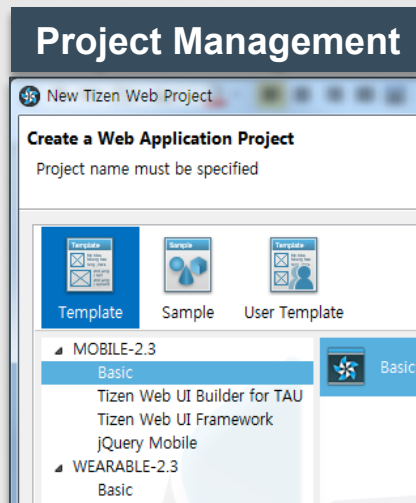


Add-On SDK



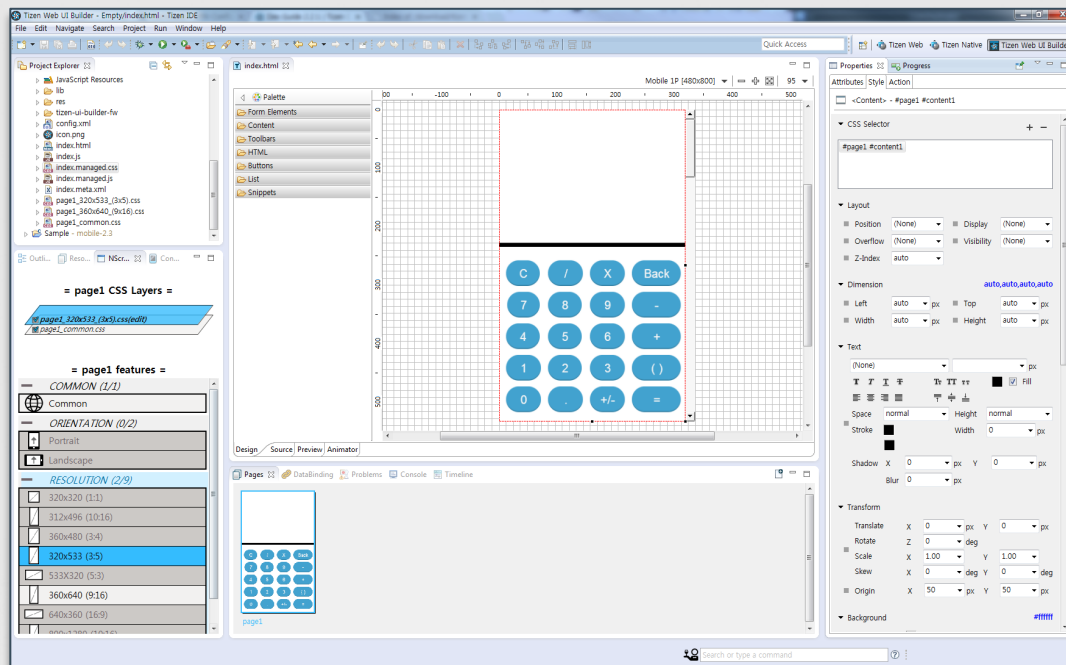
Features[1] - IDE for Web and Native Apps

- **Development Environment for generating Codes**
 - Project Management (Mobile-Web, Mobile-Native and Wearable-Web)
 - W3C based Web Application, C/C++ based Native Application
 - Mobile and Wearable Profile
- **Assisting Code Editing**
 - Code Navigation, Code Hovering, Code Complete

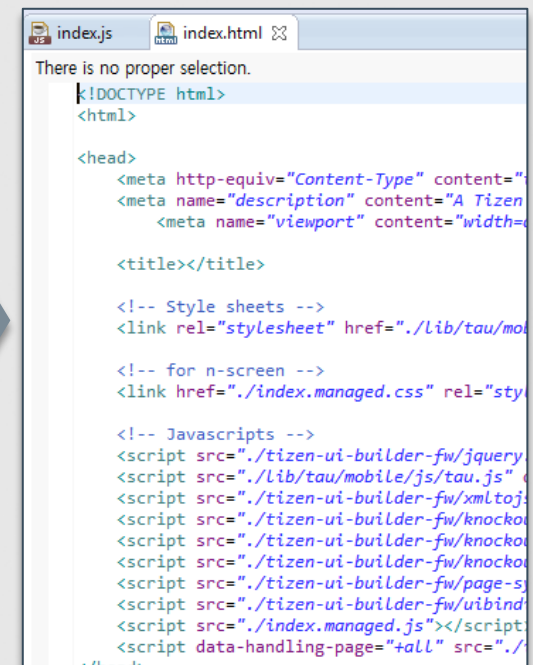


Features[2] - GUI Builder for Web App (1/3)

- **Develop Web App UI with GUI builder**
 - Edit Multi-resolution and Manage Multi aspect-ratio
 - Generate Code to HTML/CSS/JS

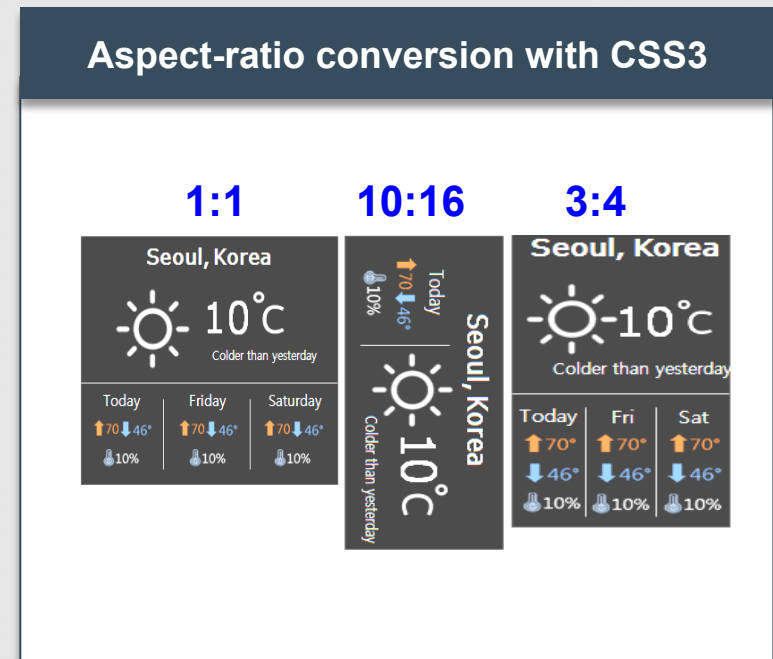
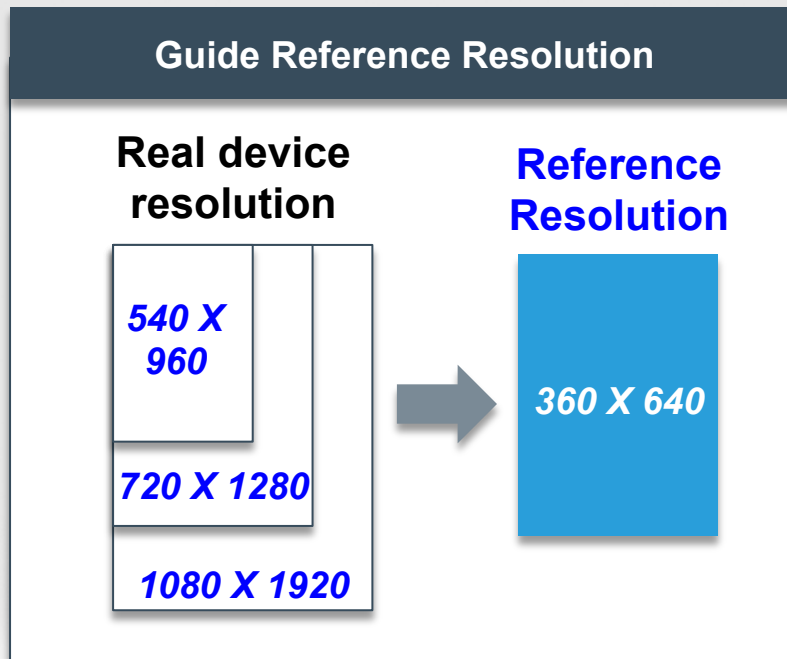


Code



Features[2] - GUI Builder for Web App (2/3)

- **Guide Reference Resolution for Multi devices**
 - Can apply One App to Different resolution Screen
- **N-Screen supports several layouts for multiple screen size**
 - The App UI Can fit to various Aspect-Ratio Screen using CSS3 Media Query♪



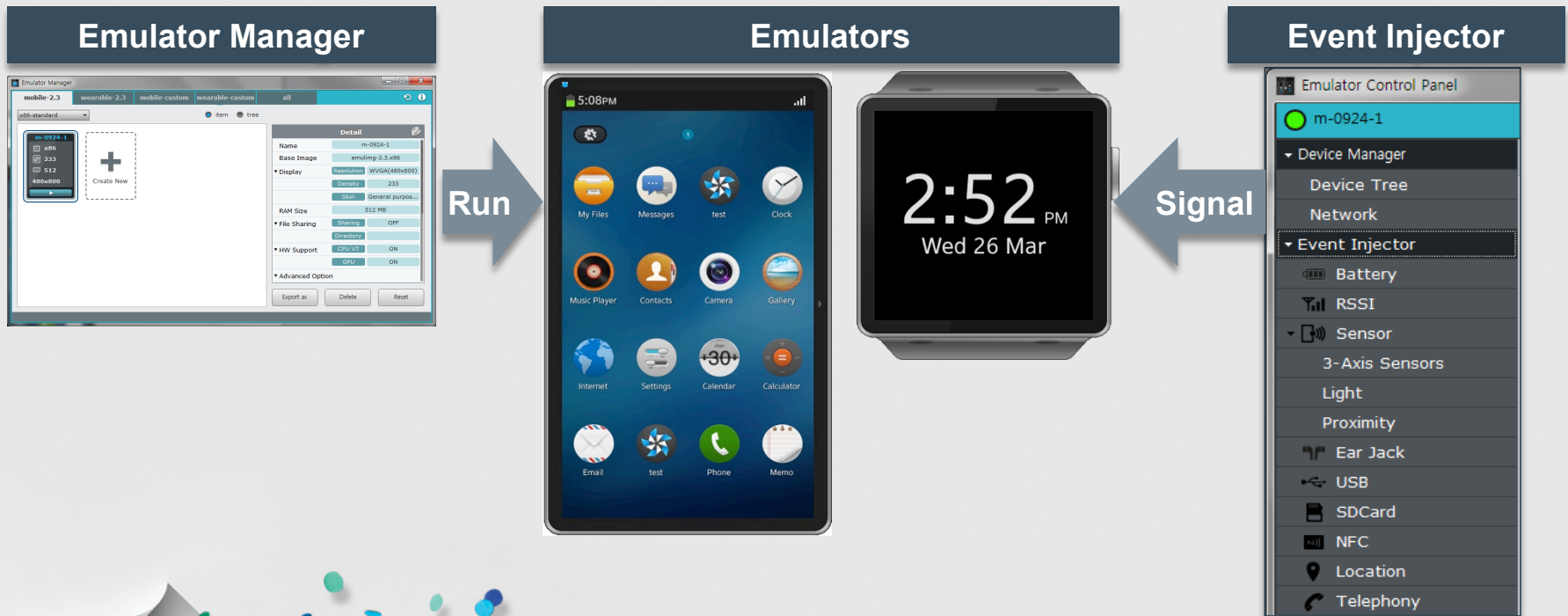
Features[2] - GUI Builder for Web App (3/3)

- Examples of Reference Resolution

Device Categories♪	Physical Resolution♪	Reference Resolution♪	Device-pixel-ratio♪	Aspect-ratio♪
Wearable♪	320 X 320♪	320 X 320♪	1♪	1:1♪
	360 X 480♪	360 X 480♪	1♪	3:4♪
Mobile♪	480 X 800♪	320 X 533♪	1.5♪	3:5♪
	540 X 960♪	360 X 640♪	1.5♪	9:16♪
	720 X 1280♪		2♪	
	1080 X 1920♪		3♪	
	800 X 1280♪	800 X 1280♪	1♪	10:16♪
	1600 X 2560♪		2♪	
TV♪	1280 X 720♪	1280 X 720♪	1♪	16:9♪
	1920 X 1080♪	1920 X 1080♪	1♪	
	3840 X 2160♪		2♪	

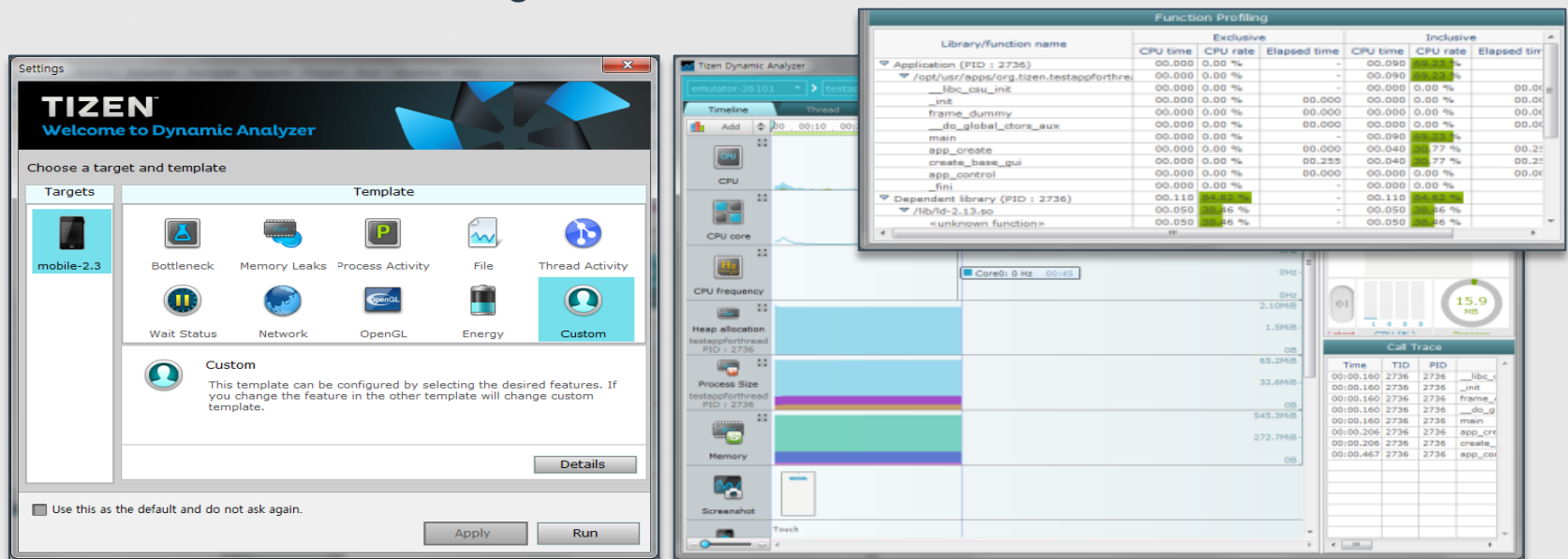
Features[3] – Emulator acting like Device

- **Launching Apps on Emulators without Devices**
 - Emulator Manager set Resolutions and Launch Emulators
- **Event Injector generate Real device Signal for Emulator**



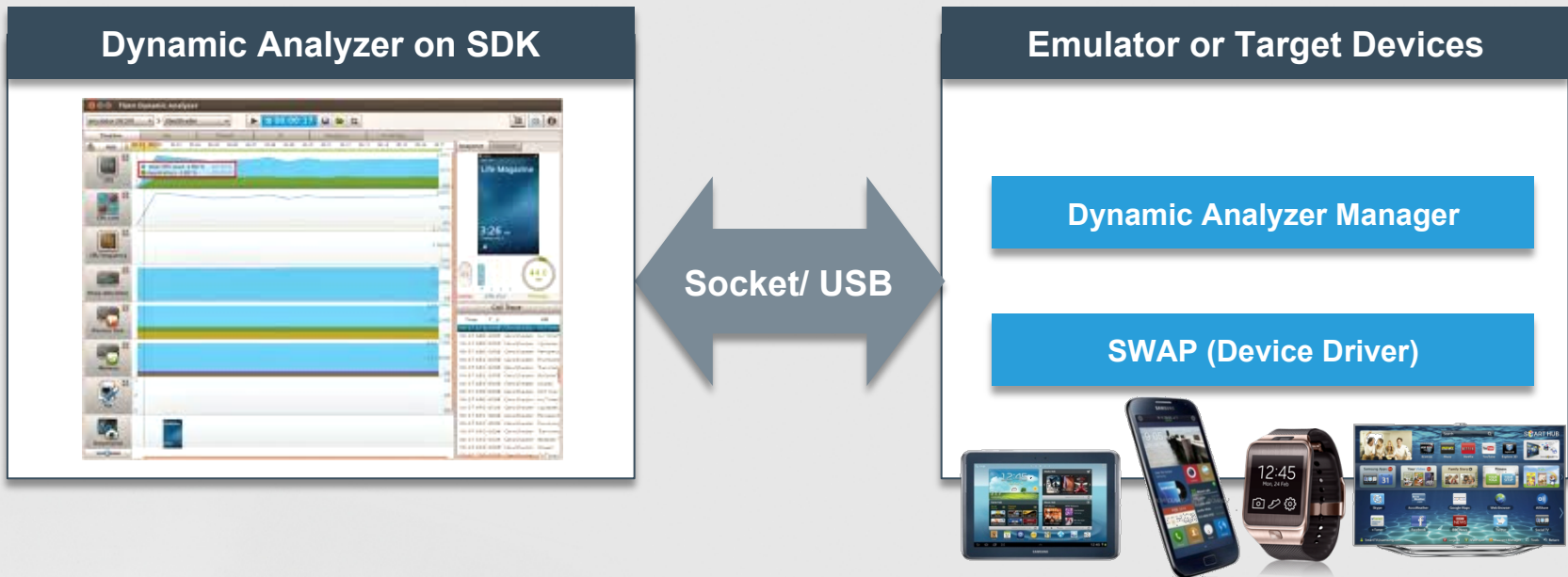
Features[4] – Debugging & Profiling (1/2)

- **Support various debugging tools**
 - with GDB, Log tracer, Dynamic Analyzer
- **Dynamic Analyzer**
 - H/W Resource usage (CPU, GPU, Memory, Power, Network)
 - UI Event Point, Tracing Function Call stack, Used API Lists



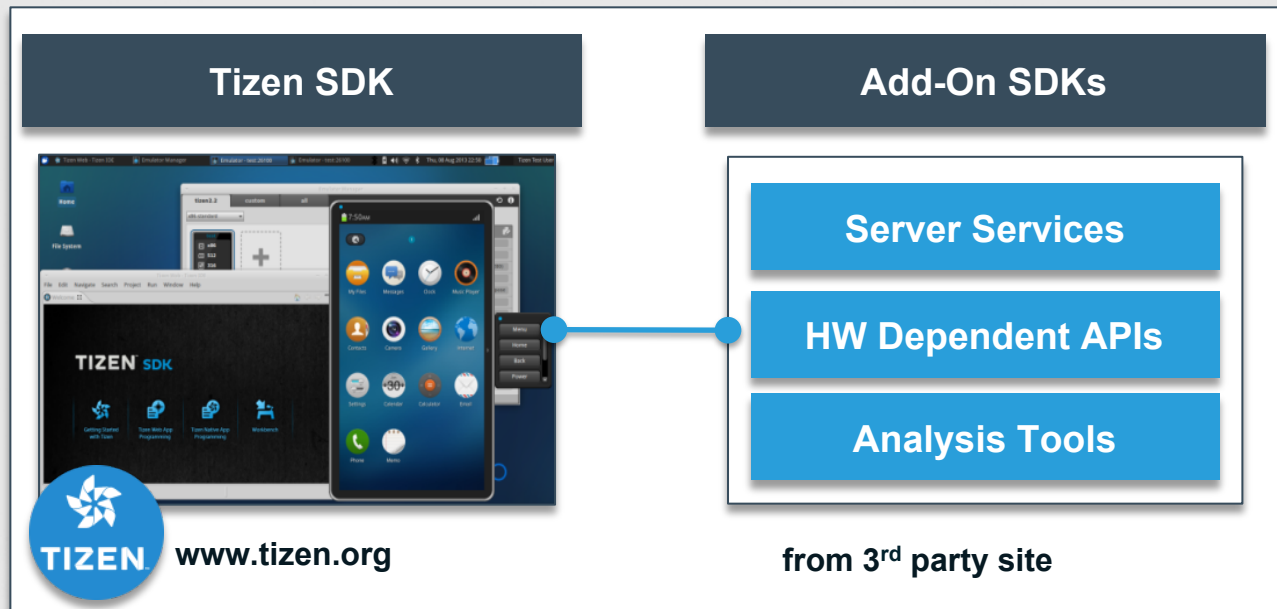
Features[4] – Debugging & Profiling (2/2)

- **Dynamic Analyzer for Profiling**
 - On Target/Emulator : Gathering HW and SW information
 - SWAP(System-Wide Analyzer of Performance)
 - On SDK : Displaying Visual Information in real time



Features[5] - Add-On SDK to extend services

- **Providing Extended Features/Services using Add-On SDK**
 - Server-Side services, HW Dependent APIs, Analysis Tools
 - Download from
 - www.tizen.org, Manufacturer, 3rd party site

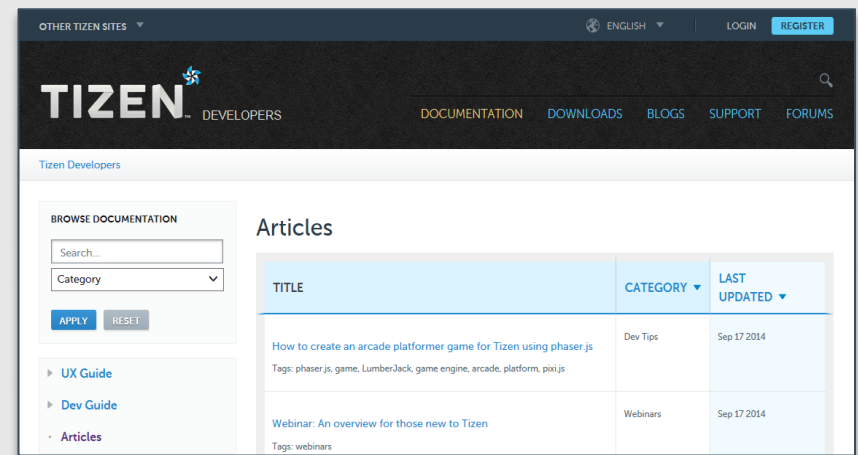
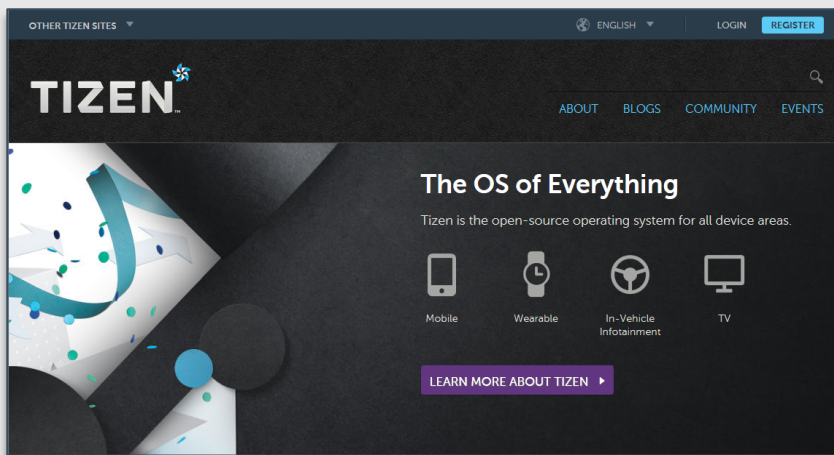




How to Build Tizen Web Application


























Visit Web Site

- **Web Site:** <http://www.tizen.org>
 - Register and Create New Account
- **Online Help:** <http://developer.tizen.org/documentation>
 - For Tizen App developers and Tizen Platform Developers



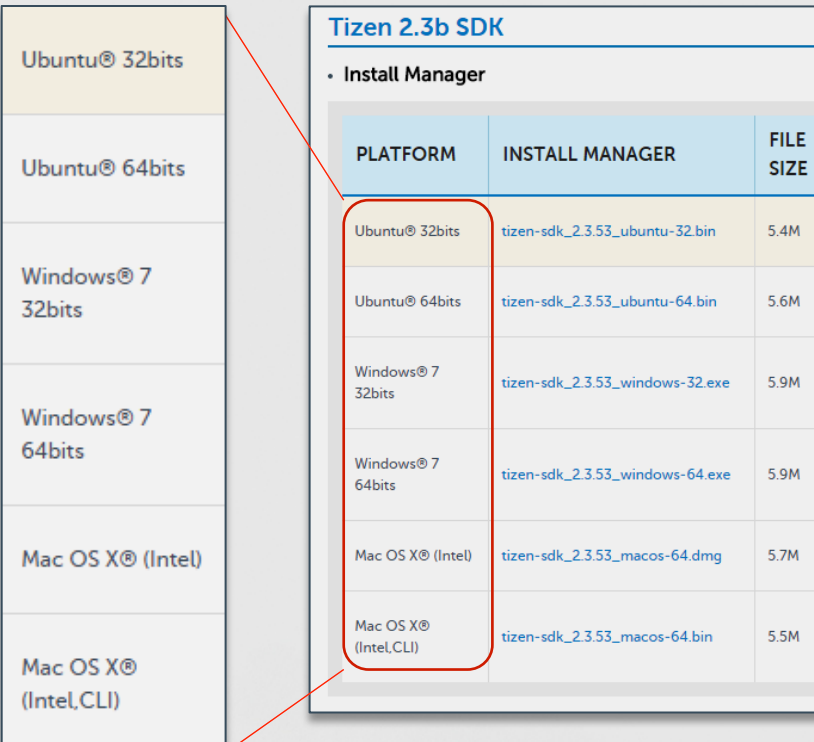
Tizen Documents on Web Page and SDK

- Provide Help Content for Developing Mobile & Wearable App

- [-]  **Getting Started with Tizen**
 - +  Overview
 -  Tizen SDK Installation
 - +  Development Environment
- [-]  **Tizen Mobile Native App Programming**
 - +  Basics of Native App Programming
 - +  IDE and Tools
 - +  Application Development Process
 - +  Multiple Screen Support Guide
 - +  Programming Guide
 - +  Porting Guide
 - +  Tutorials
 - +  API Reference
 -  Sample Applications
- [-]  **Tizen Mobile Web App Programming**
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 - +  IDE and Tools
 - +  Application Development Process
 - +  UI Layout Guide
 - +  Programming Guide
 - +  Web IME Programming Guide
 - +  Tutorials
 - +  API References
 -  Sample Applications

Download SDK

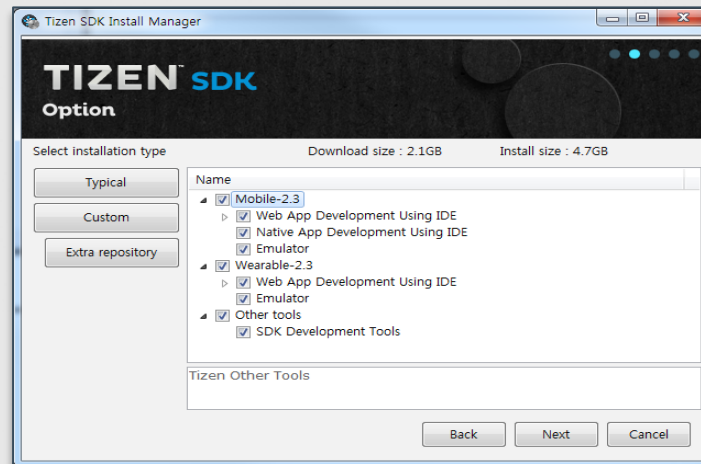
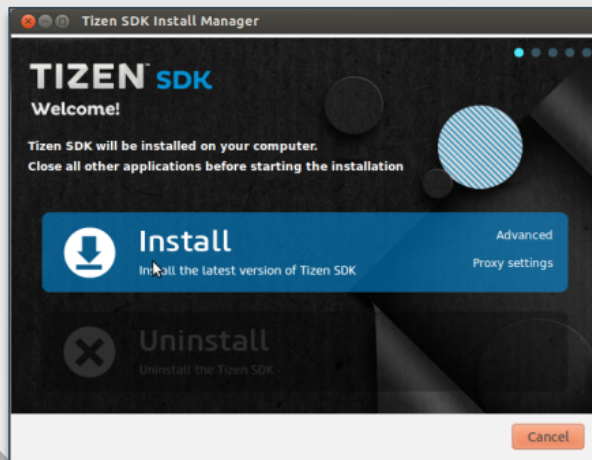
- Download SDK Installer at <https://developer.tizen.org/sdk>
 - Supported OS – Ubuntu 64/32bit, Windows 64/32bit and MacOS 64bit

Ubuntu® 32bits	 Tizen 2.3b SDK • Install Manager <table><tr><th>PLATFORM</th><th>INSTALL MANAGER</th><th>FILE SIZE</th></tr><tr><td>Ubuntu® 32bits</td><td>tizen-sdk_2.3.53_ubuntu-32.bin</td><td>5.4M</td></tr><tr><td>Ubuntu® 64bits</td><td>tizen-sdk_2.3.53_ubuntu-64.bin</td><td>5.6M</td></tr><tr><td>Windows® 7 32bits</td><td>tizen-sdk_2.3.53_windows-32.exe</td><td>5.9M</td></tr><tr><td>Windows® 7 64bits</td><td>tizen-sdk_2.3.53_windows-64.exe</td><td>5.9M</td></tr><tr><td>Mac OS X® (Intel)</td><td>tizen-sdk_2.3.53_macos-64.dmg</td><td>5.7M</td></tr><tr><td>Mac OS X® (Intel,CLI)</td><td>tizen-sdk_2.3.53_macos-64.bin</td><td>5.5M</td></tr></table>	PLATFORM	INSTALL MANAGER	FILE SIZE	Ubuntu® 32bits	tizen-sdk_2.3.53_ubuntu-32.bin	5.4M	Ubuntu® 64bits	tizen-sdk_2.3.53_ubuntu-64.bin	5.6M	Windows® 7 32bits	tizen-sdk_2.3.53_windows-32.exe	5.9M	Windows® 7 64bits	tizen-sdk_2.3.53_windows-64.exe	5.9M	Mac OS X® (Intel)	tizen-sdk_2.3.53_macos-64.dmg	5.7M	Mac OS X® (Intel,CLI)	tizen-sdk_2.3.53_macos-64.bin	5.5M
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Supported OS	Version
Windows	7, 8
Mac	10.7, 10.8, 10.9
Linux Ubuntu	12.04, 12.10, 14.04

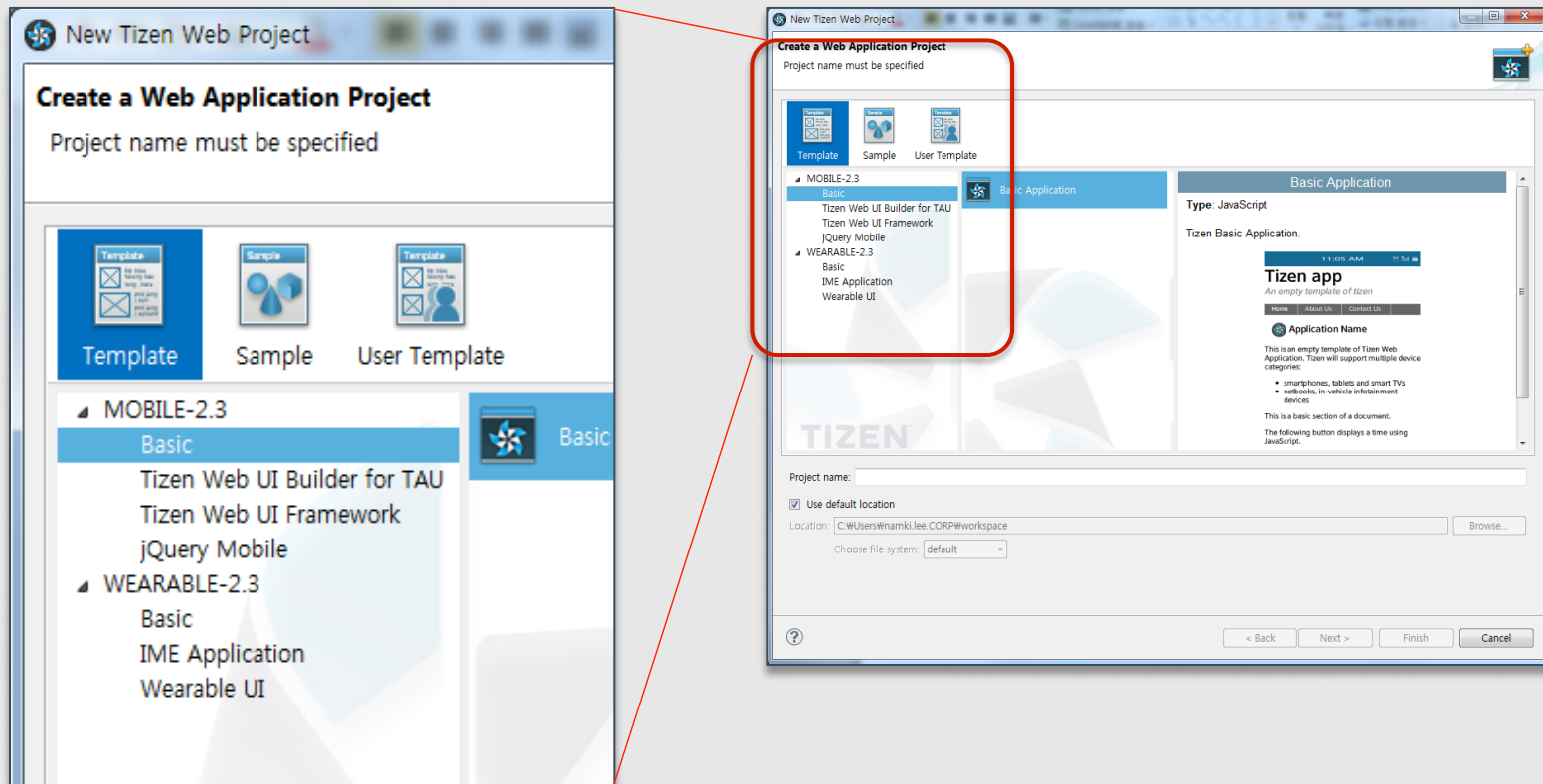
Install SDK

- **The Advanced Option Select the SDK images from**
 - Downloaded SDK Image
 - Package server (<http://download.tizen.org/sdk/packages-2.3b>)
- **Tizen 2.3 SDK change options**
 - Typical installation – Select one of 2 profiles (Mobile/Wearable)
 - Custom installation – Web IDE, Native IDE, Emulator and Tools



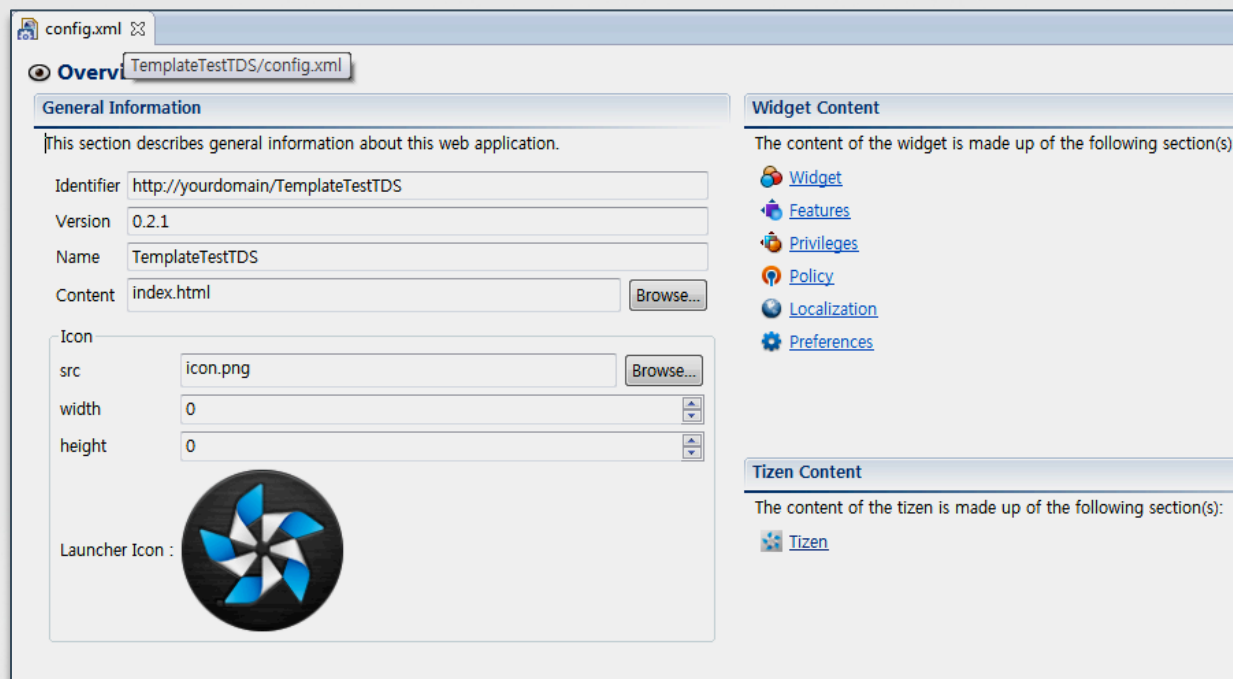
Create Web Application Project

- Select Templates or Samples in Project Wizard



Set Web App Configuration (config.xml)

- **Configuration File (config.xml)** has
 - Widget, Feature, Privilege, Policy, Localization, Preferences, And **Tizen**
- **Configuration Editor** to modify config.xml easily



Design the application UI

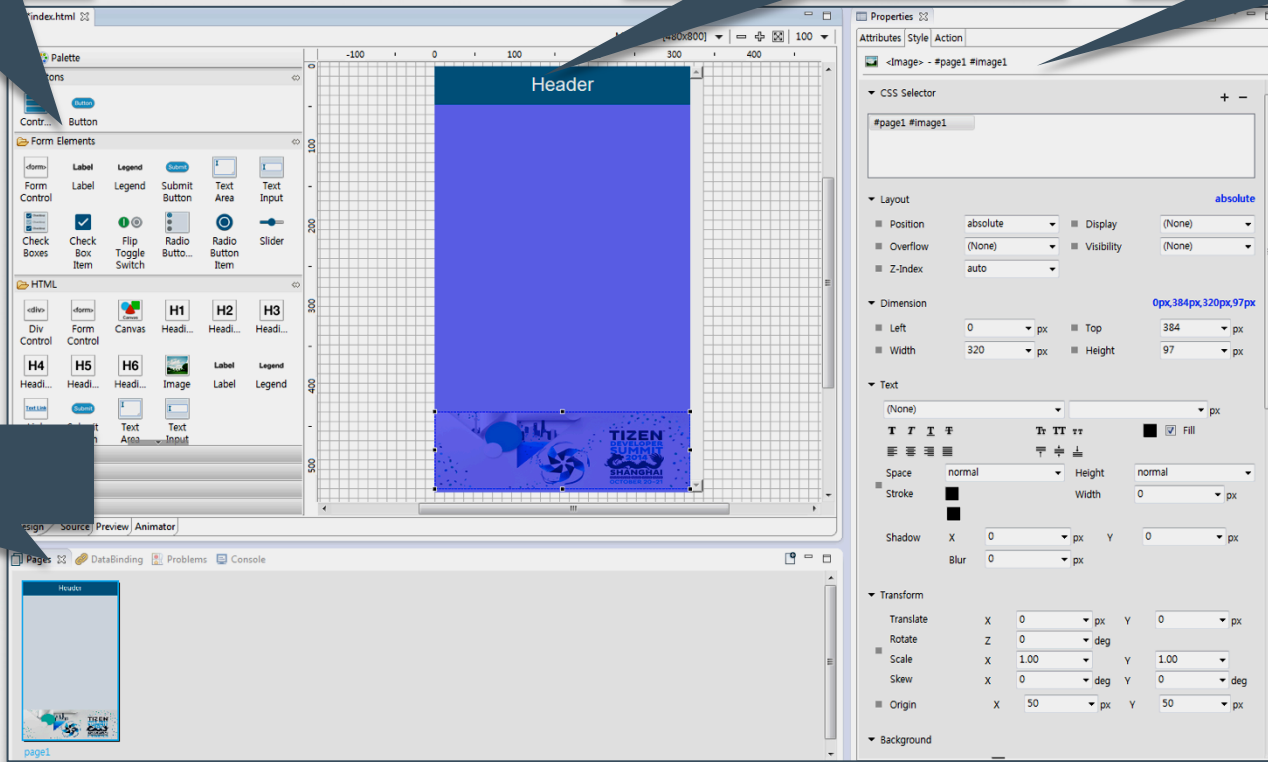
- The Tizen SDK provides GUI Builder for Generating Web App UI

Palette for widgets

UI Editing Window

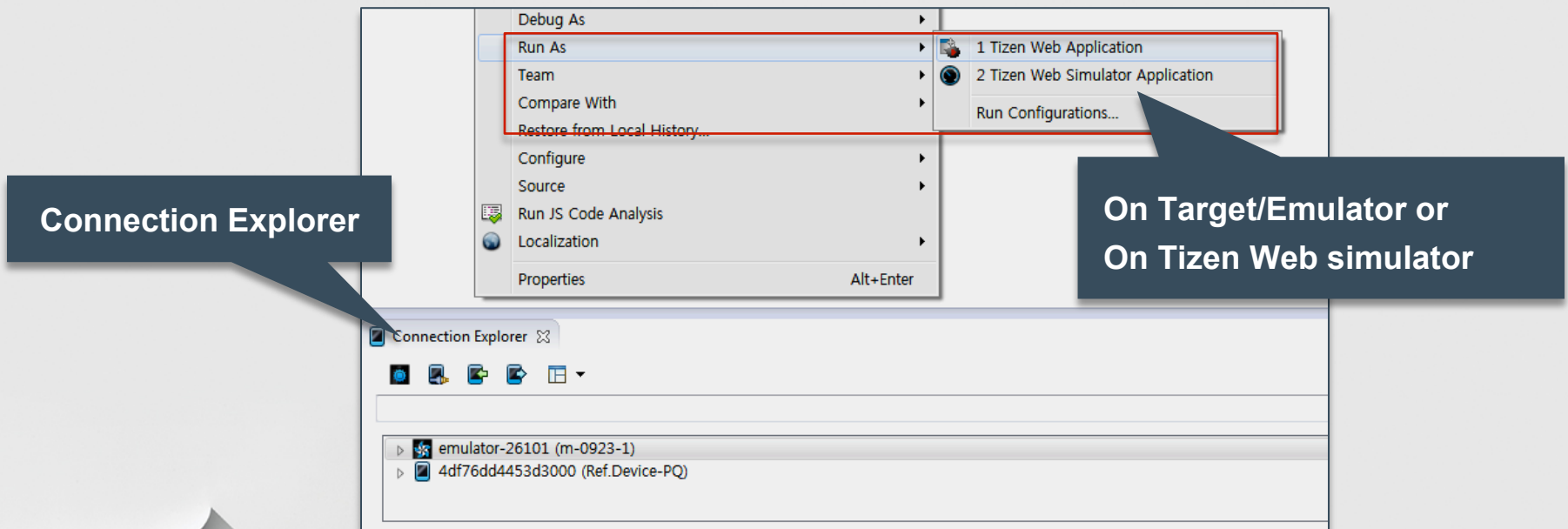
Properties view

Pages view



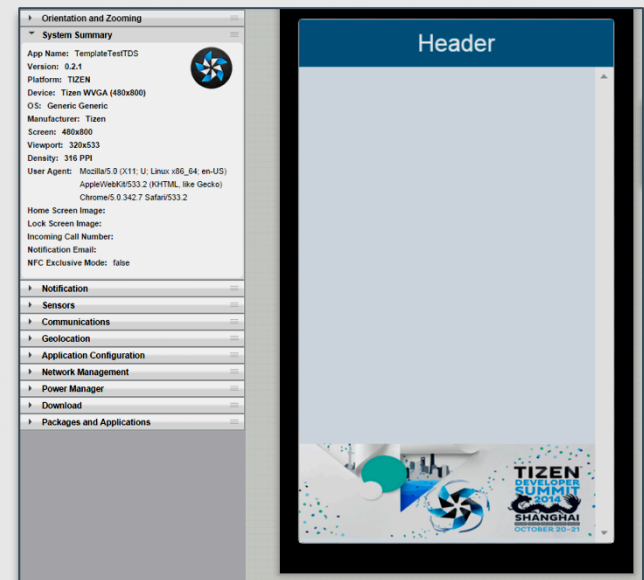
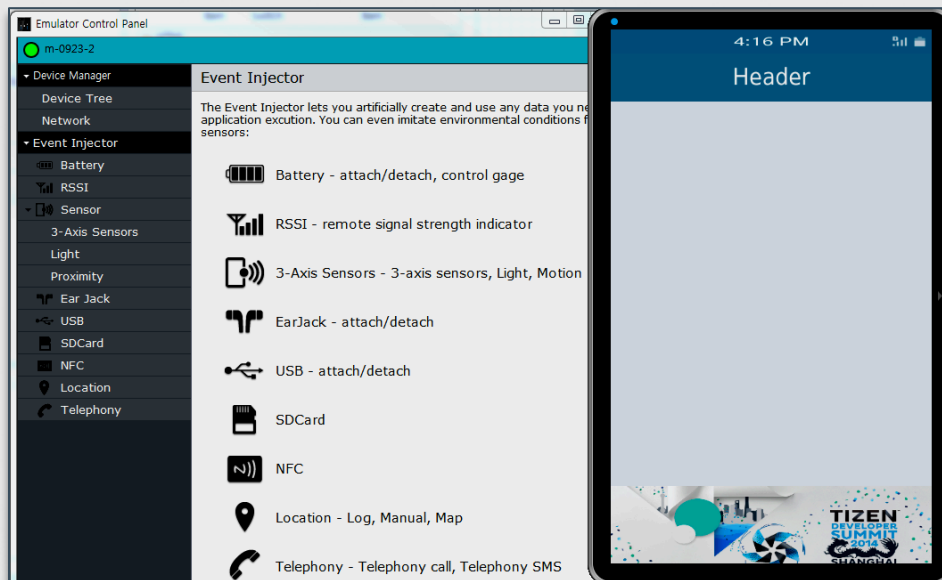
Run and debug your application

- Run Tizen App by click “Run As” Menu
- The Tizen App can be run on ...
 - Tizen Reference Targets
 - Tizen Emulator
 - Tizen Web Simulator (using Internal Web Browser)



Run Apps On Emulator & Simulator

- The emulator run App and the Tizen Platform
- Simulator run your application on web browser
 - further faster and more light-weight



Wrap-up : Tizen 2.3 SDK provide

- **Mobile** and **Wearable** Profiles of Tizen in One environment
- Developing **Web** applications and **Native** Applications
- GUI Builder Supporting Various **Resolution** and **Aspect Ratio** Screens
- **Emulators** Running for Mobile/Wearable profiles
- Debugging with GDB for Native and Web Inspector for Web
- Dynamic analyzer to analyze the application at runtime

Future Plan

- Integrating SDK of TV andIVI Profiles into One SDK
- GUI Builder for Native Application
- Advanced Static Analysis tool for Web App and Native App
- Automatic App UI Tester
- Enhanced Documentation at Tizen.org



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