Introduction to TIZEN SDK

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Contents

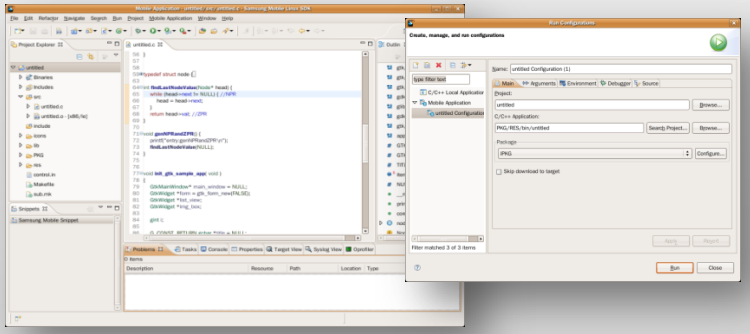
- Overview
- Tizen SDK (selected features)
- Demo (10 minutes)
- Conclusion

Overview (1/3)

- **Tizen SDK is a comprehensive set of tools for Tizen app development**

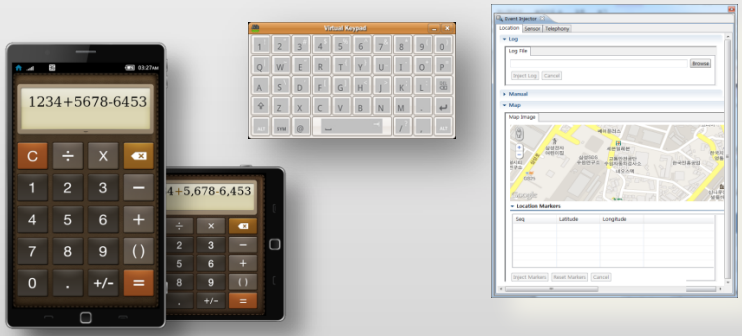
IDE

- Competitive editor for HTML, CSS, Javascript
- Project management, templates, samples, documentation
- Multiple target (Emulator/Device) management



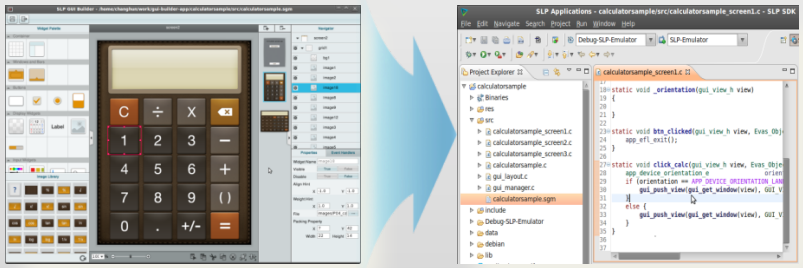
Target like Emulator

- Various Device Emulation based on open source QEMU
- Event Injector such as Call/SMS send and receive



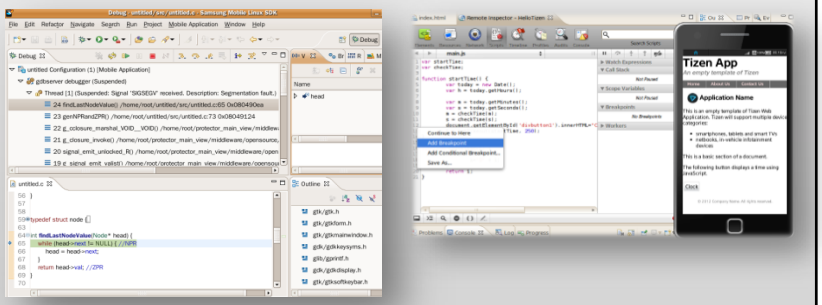
GUI Builder

- Productive and visual WYSIWYG builder
- Web GUI Builder supporting Tizen JQM based UI framework (*TBD*)



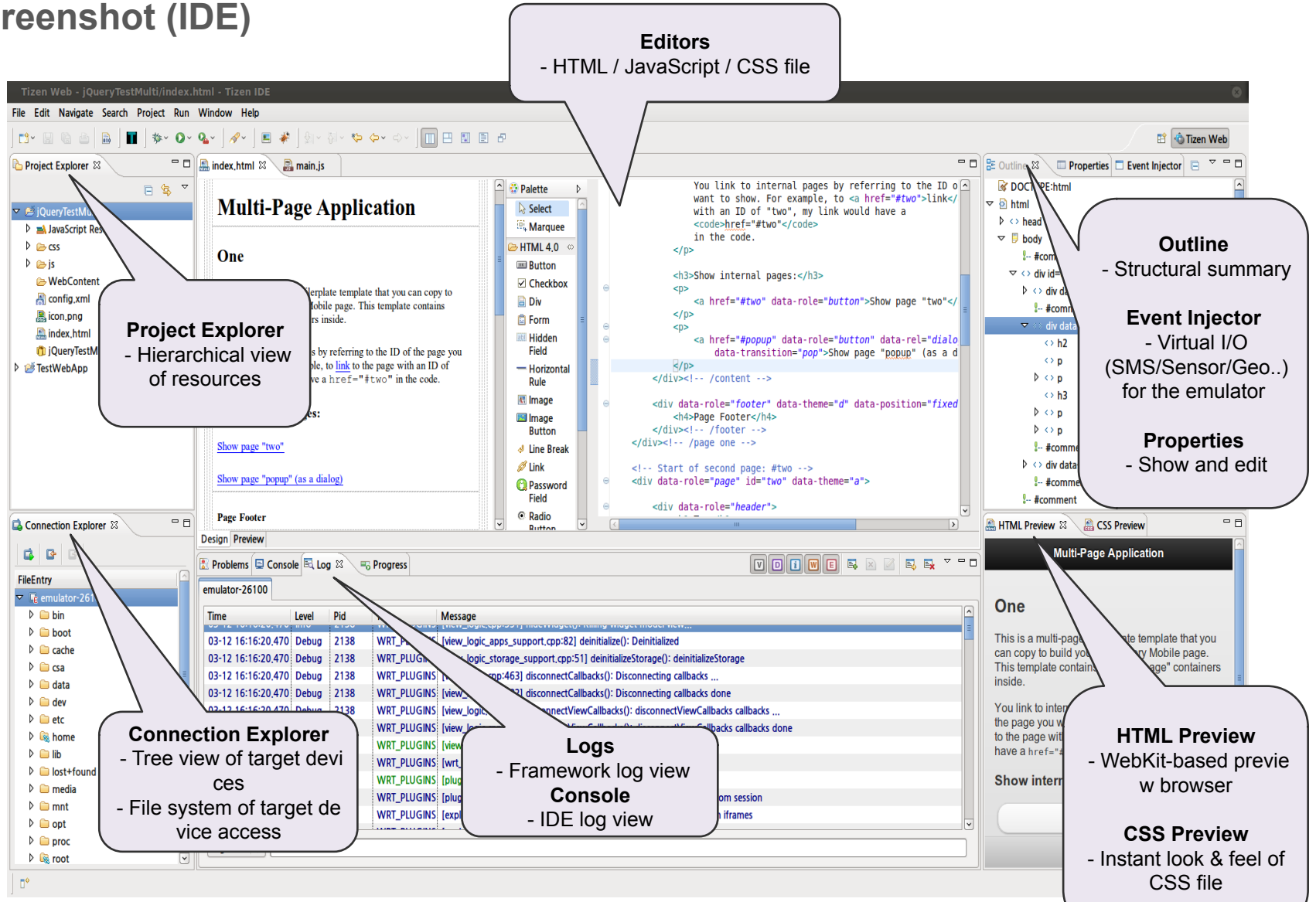
Others

- Debugging & profiling based on remote web inspector
- One step install, Multi-OS support
- Platform development (native) support



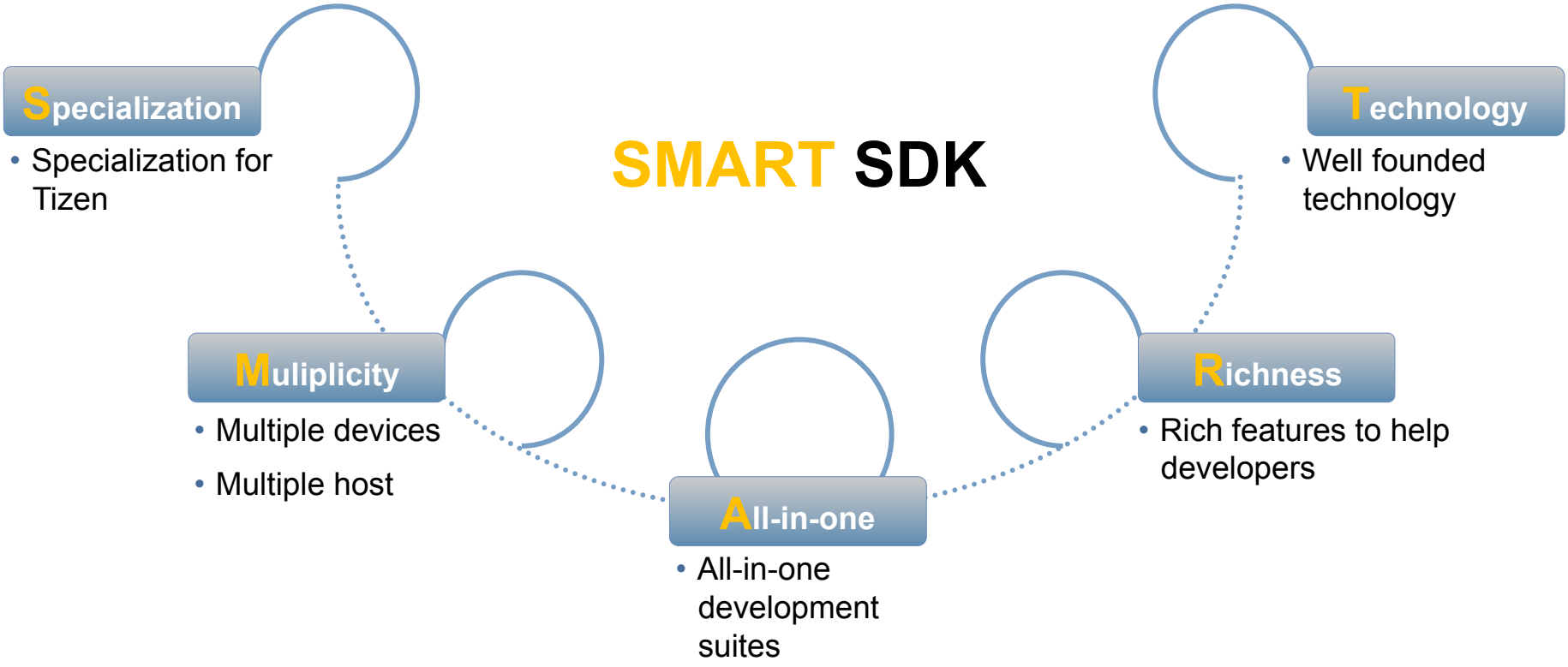
Overview (2/3)

- **Screenshot (IDE)**



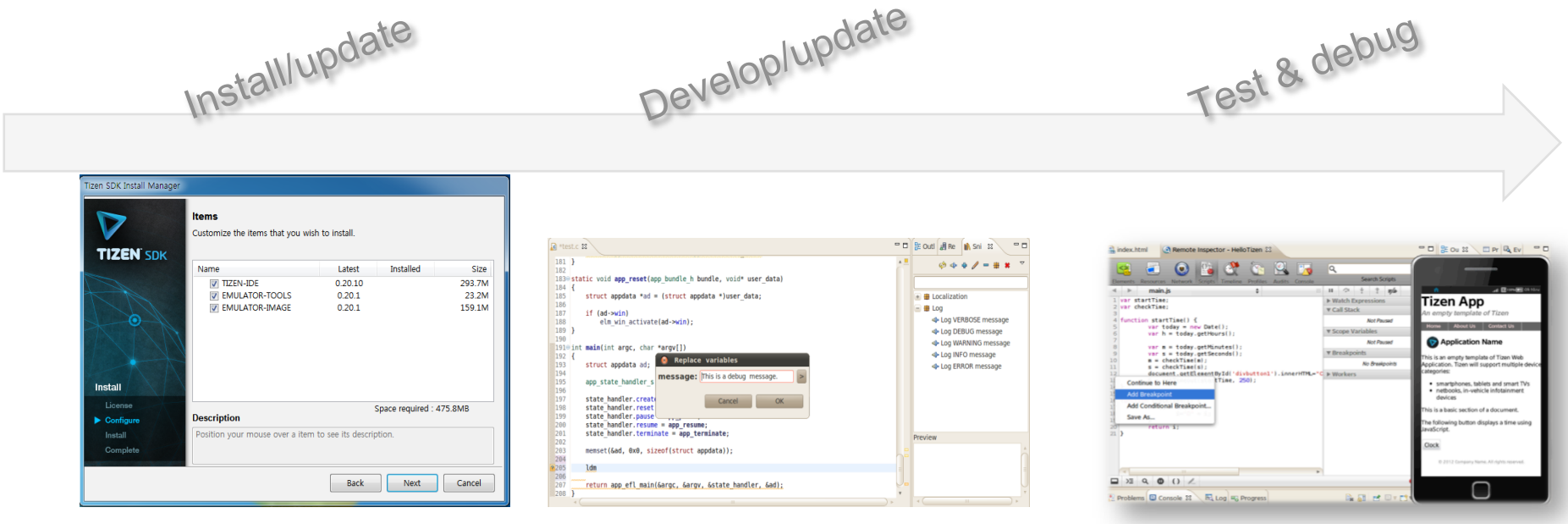
Overview (3/3)

- **Tizen SDK in terms of S•M•A•R•T**



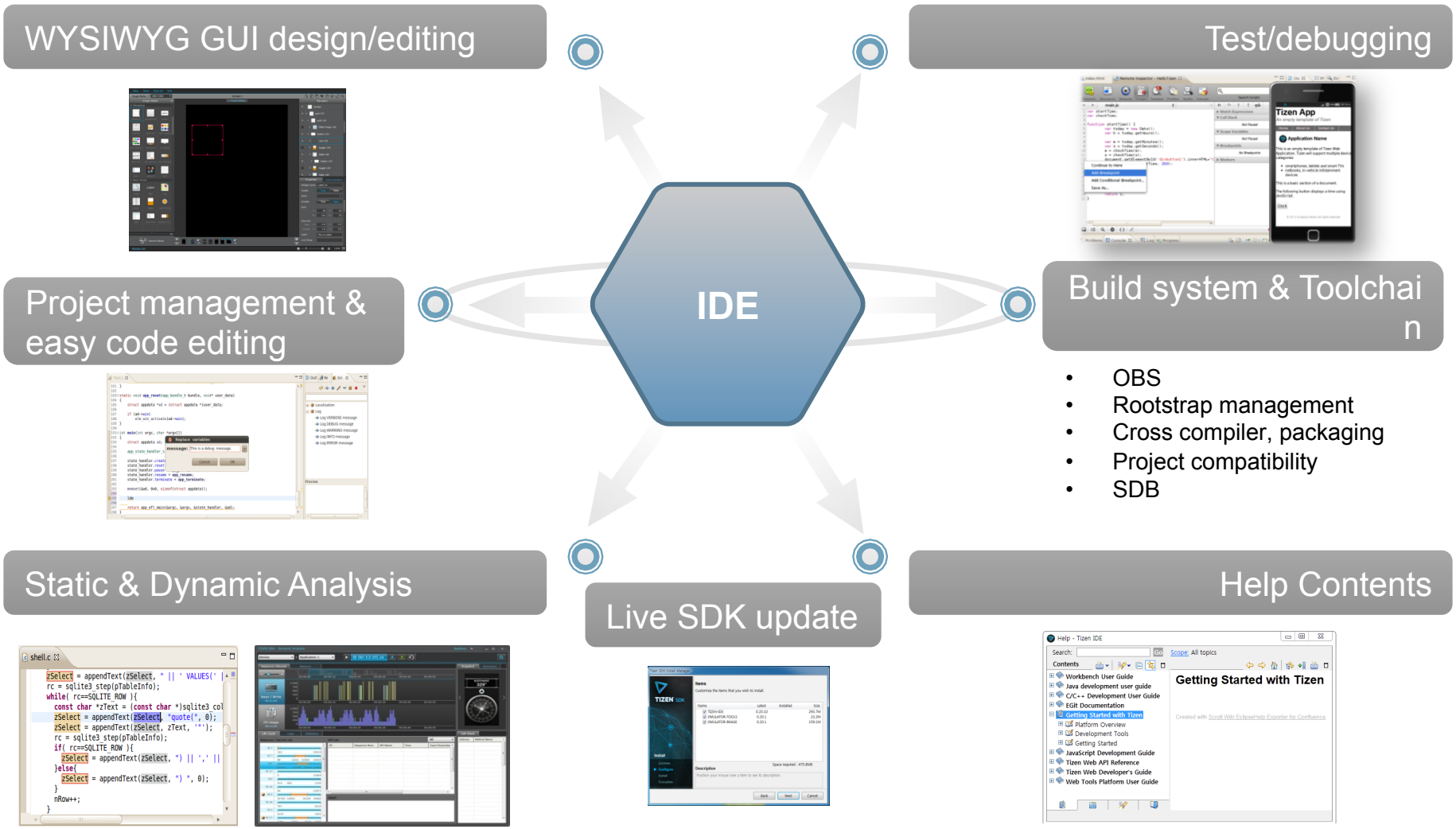
All-in-one Suites

- **Tizen SDK is all-in-one suites from installation to development**
  - One-step installer for whole SDK module installation
  - Development with rich assistance of editor and GUI builder
  - Build, test and debug with both emulator and real devices
  - Support tizen platform development as well (in one IDE)
    - Tizen platform developer can develop her own (native/library) platform module, replacing the platform image in the target



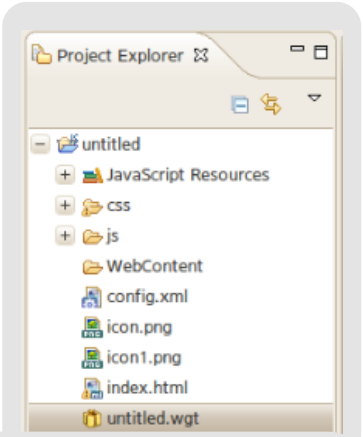
All-in-one Suites

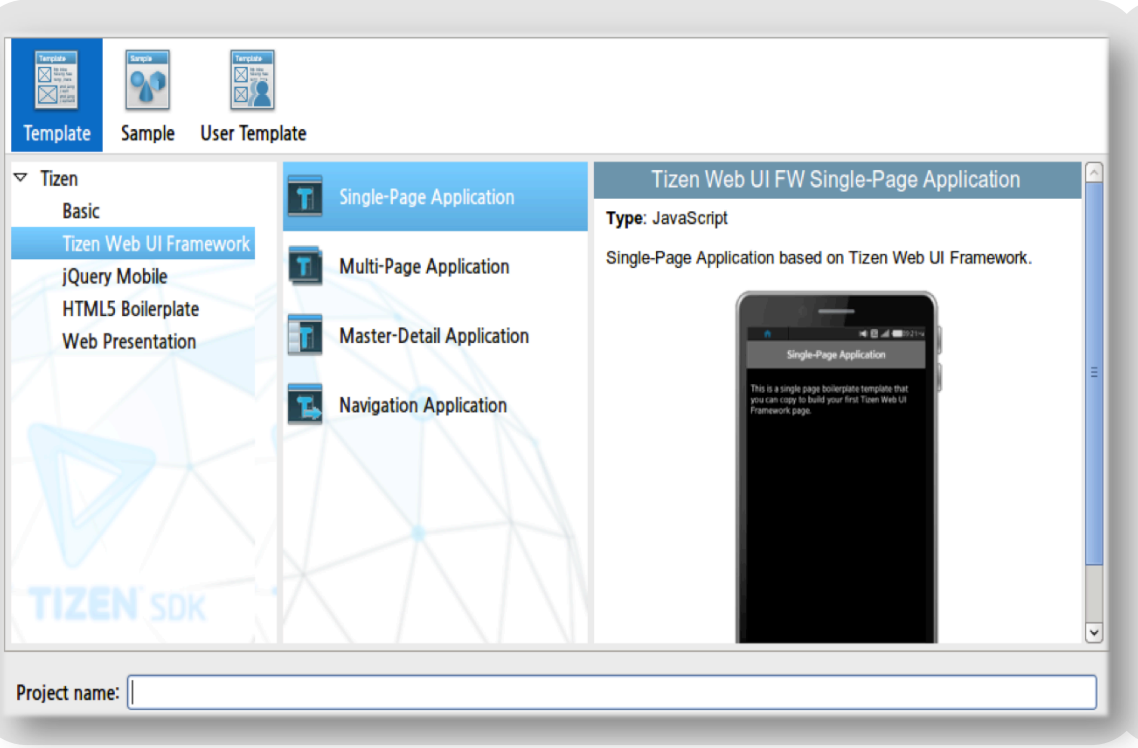
- Tizen SDK provides various tools and documents integrated with IDE



Specialization for Tizen

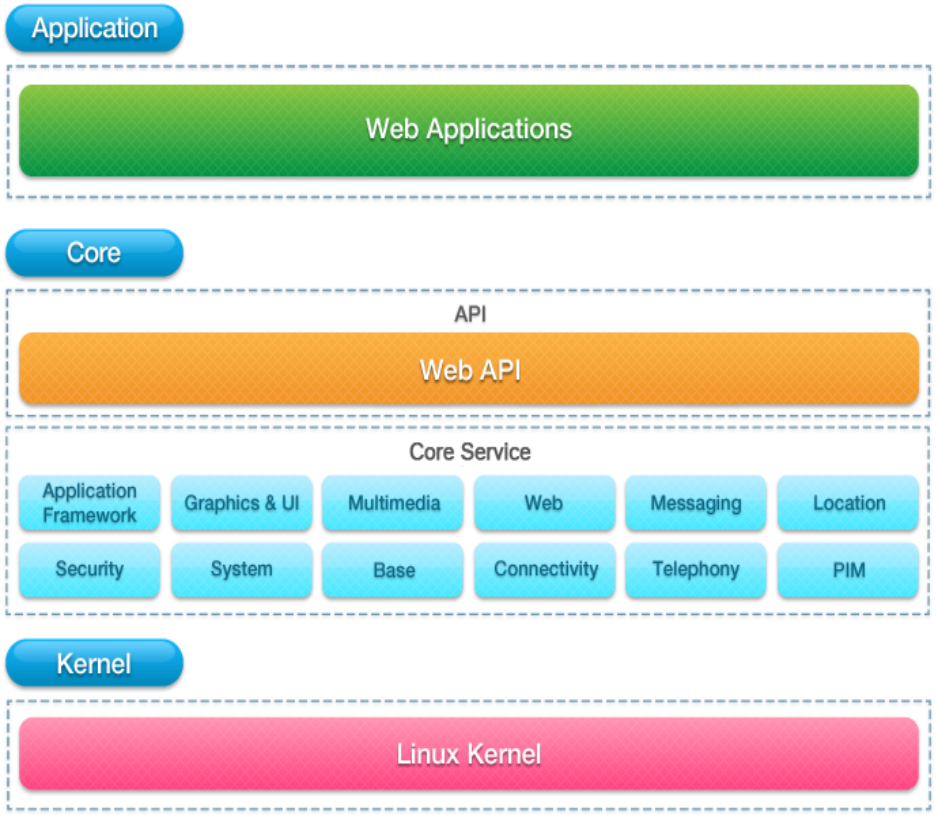
- **Best tool for developing Tizen web application**
  - project management
    - project wizard & explorer
    - Various templates & Sample
    - User template
  - Configuration editor for Tizen web app (W3C widget configuration)

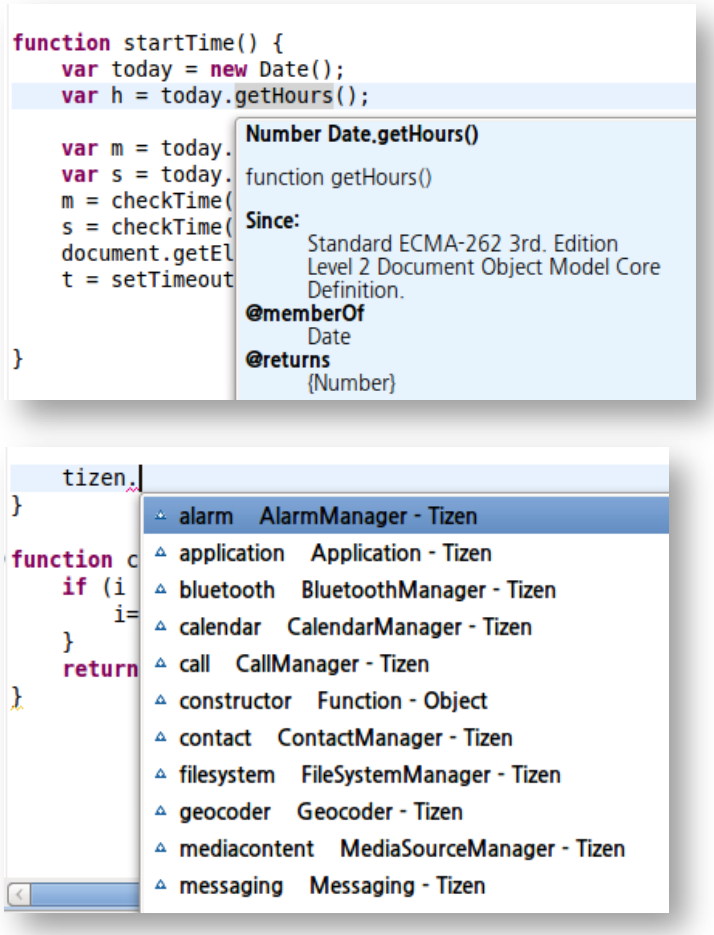




Specialization for Tizen

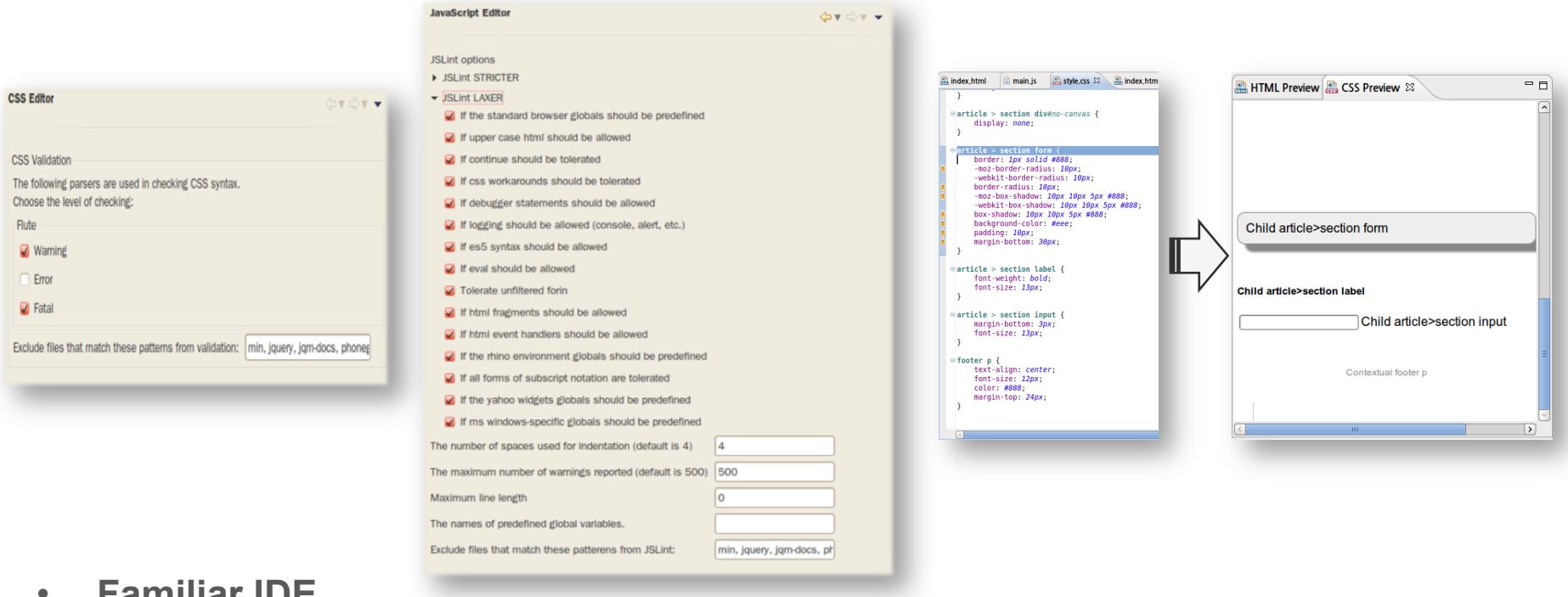
- Hover and Auto-completion for Tizen API





Richness: General features

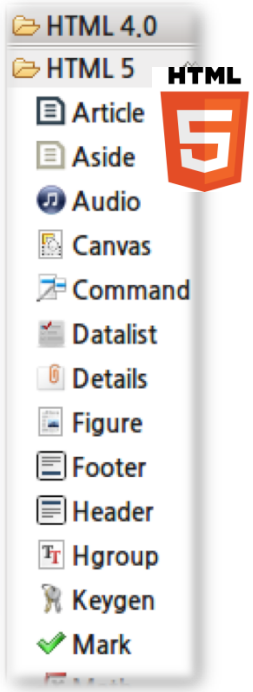
- **Not just specialized features for Tizen, but also general features to help web app development**
  - Javascript/CSS syntax check, Minification of javascript/css file, CSS/HTML preview

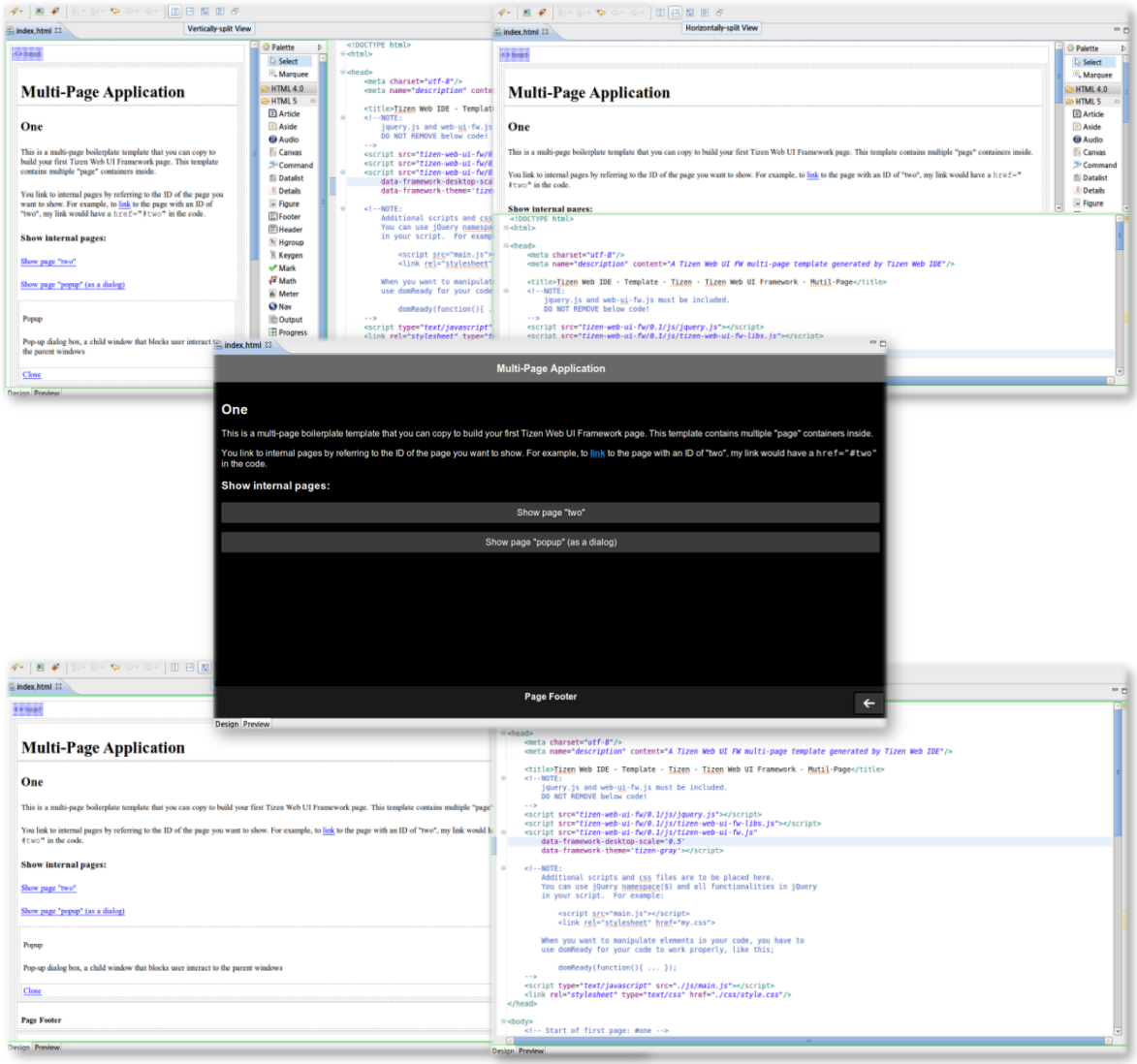


- **Familiar IDE**
  - Tizen SDK is based on Eclipse, JSDT for web app, CDT for native platform development, with which many web developers are familiar
  - Extensibility: each developers can enrich the Tizen SDK by adding custom-user plug-ins by need

Richness: HTML Editor

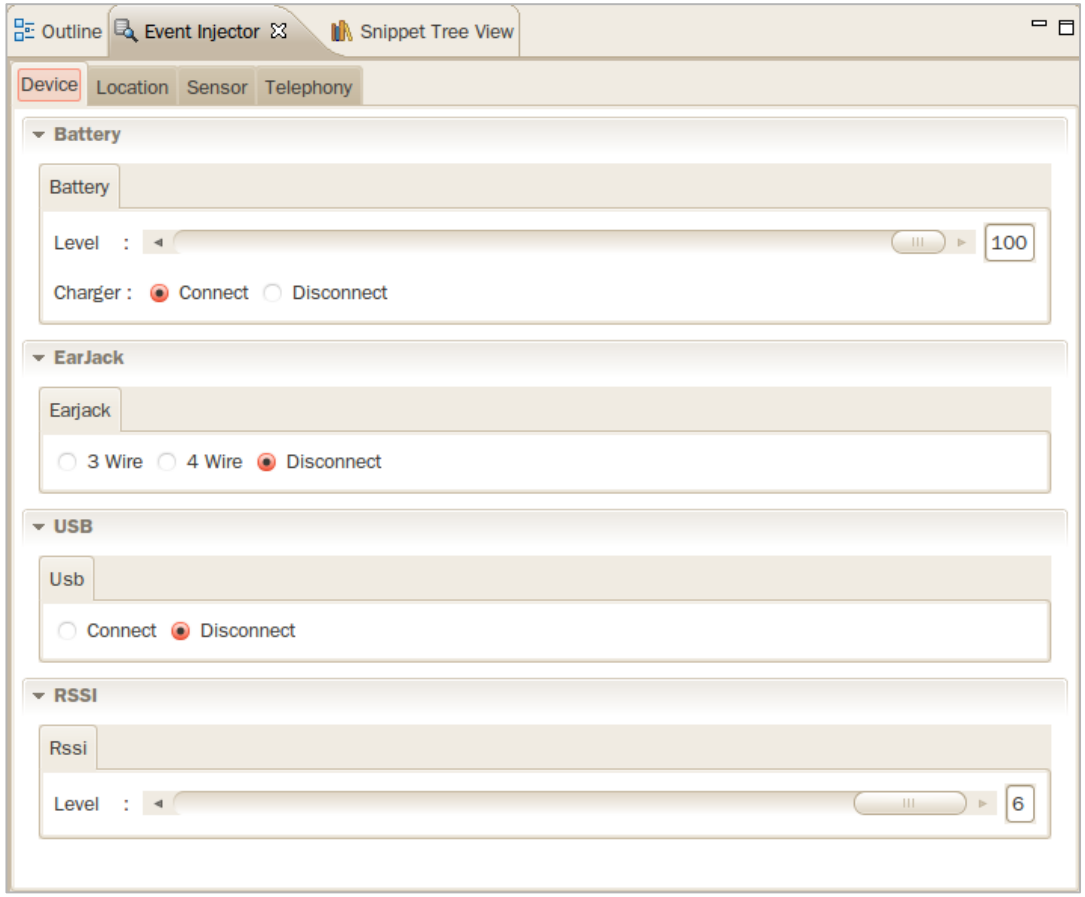
- **Variety of view mode**
  - vertically split
  - horizontally split
  - only design
  - only source
  - preview
- **HTML5 palette**
  - Supports HTML5 tag





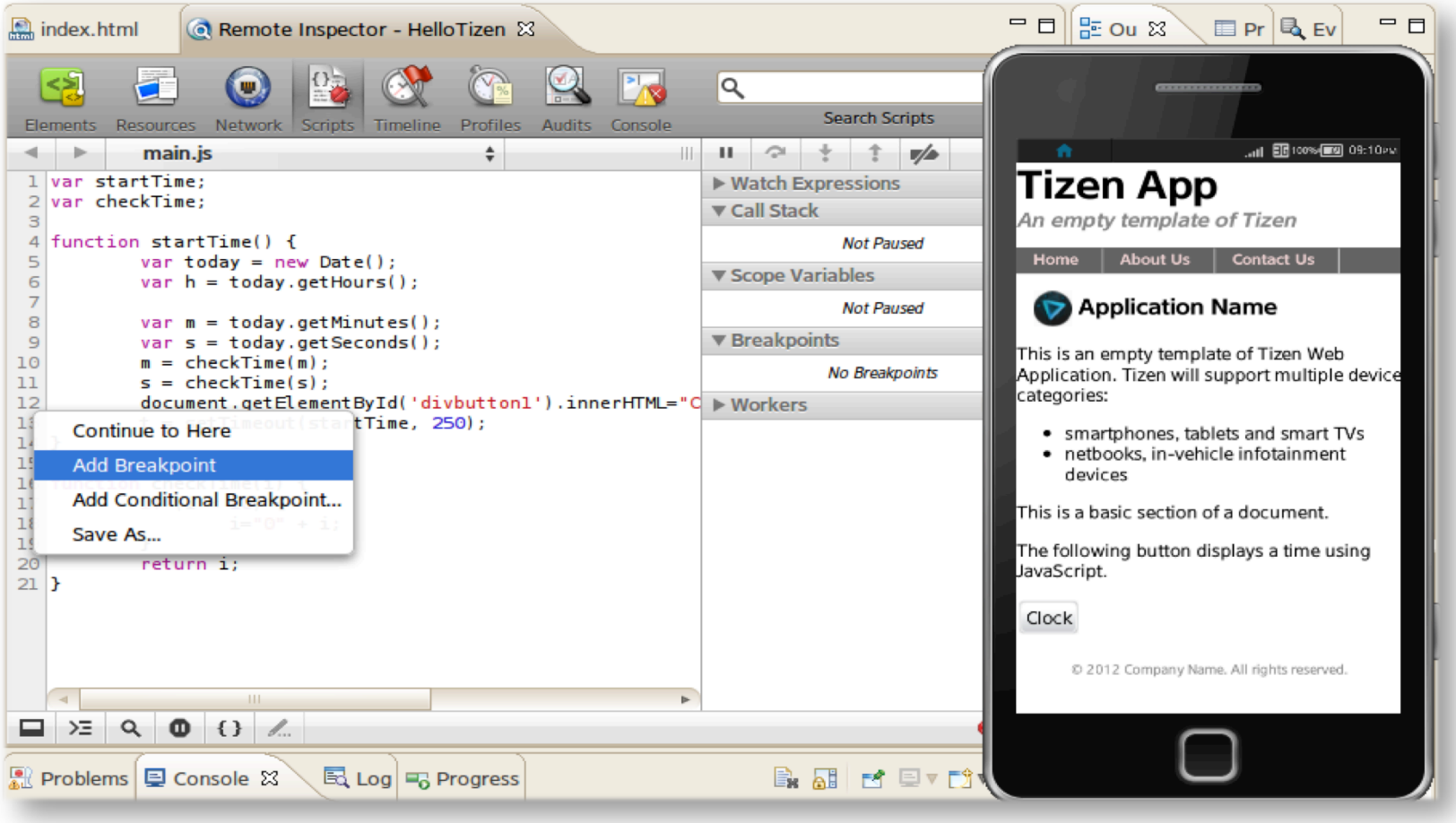
Richness: Event Injector

- **Rich event injection for ease of test**
  - Sensors
    - Accelerometer
    - Gyroscope
    - Geomagnetic
    - Proximity
    - Light
    - Motion
  - Location
    - Manual/Map/Log file
  - Telephony
    - Call/SMS
  - NFC
    - NDEF message
    - NFC Tag
    - P2P
  - Device
    - Battery level
    - Earjack
    - USB
    - RSSI



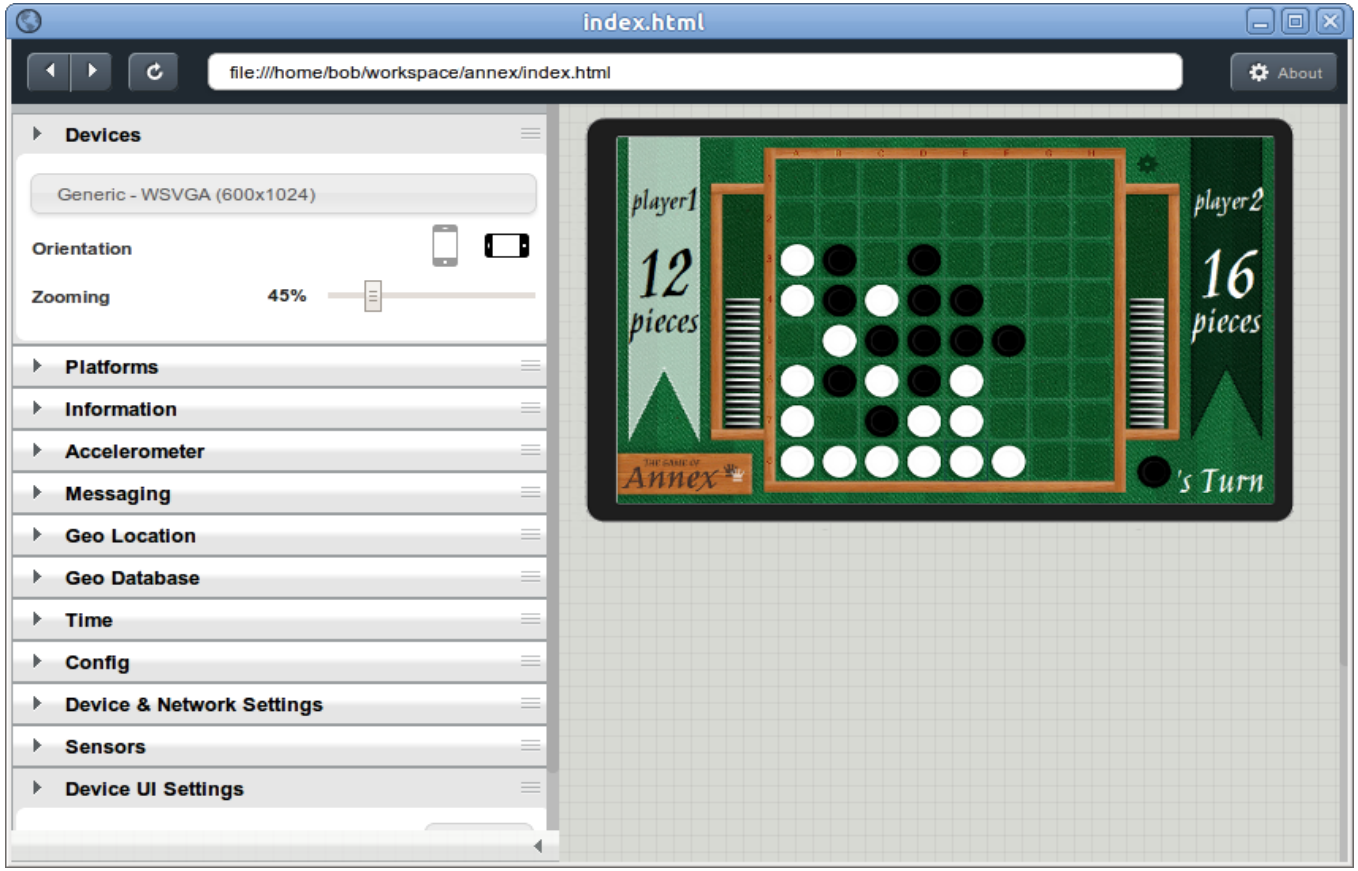
Richness: Debugging & Profiling

- **Remote inspector, integrated in Tizen SDK, provides powerful debugging/ profiling facilities for your web application**
  - JavaScript Debugging, DOM Inspection, CSS Style Inspection, Resources Inspection, Timeline and Profiles



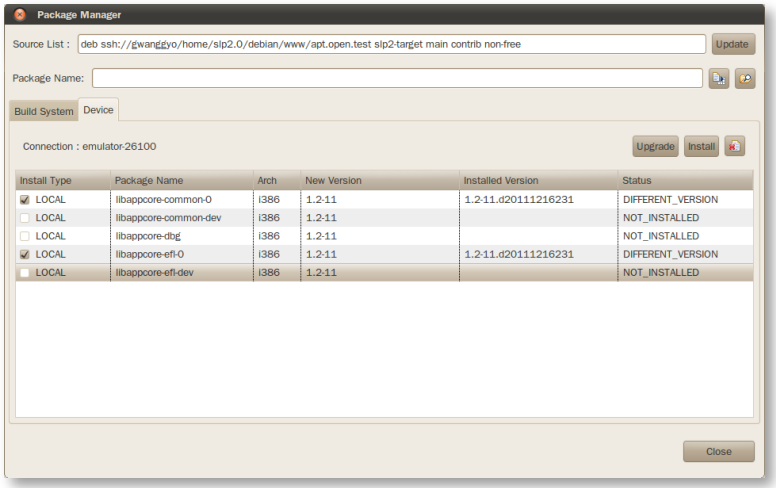
Richness: Web App Simulator

- **A browser with some (subset) Tizen API simulation**
  - No packaging/installation process to target (real device or emulator)
  - Run web app w/o target for the purpose of quick/instant test (e.g., UI mock-up)



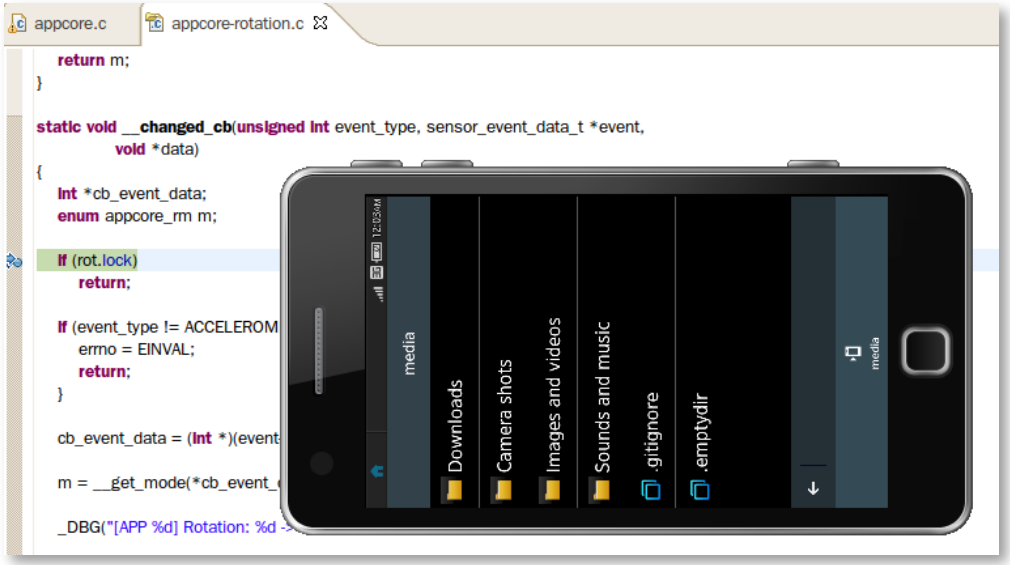
Richness: platform SDK

- **You can develop Tizen platform modules (libraries) using Tizen SDK**
  - Git integration
  - Cross toolchain with QEMU
    - Scratchbox2
    - OBS
  - Package Manager
  - Attach and Coredump Debugging



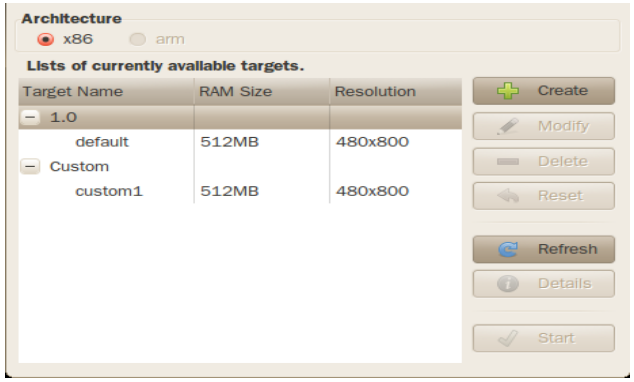
Attach

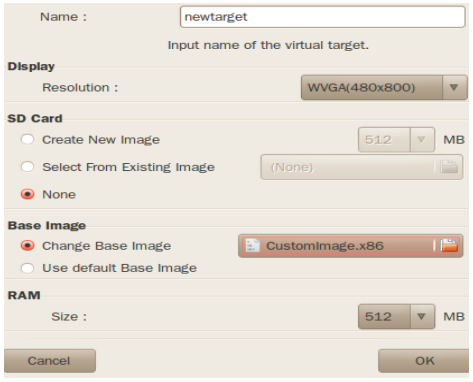
Debug



Multiplicity

- **Multi-OS**
  - Tizen SDK runs in Windows (XP/7) & Linux (Ubuntu)
  - Mac & 64 bit (‘12,2Q)
- **Multi-device**
  - The emulator enables you to test one app for **multiple devices** (virtually)
    - Configurable virtual HW: resolution (WVGA phone, HD TV), RAM, storage, devices, …
    - HW configuration (e.g., GPU, codec) independent execution of Tizen platform

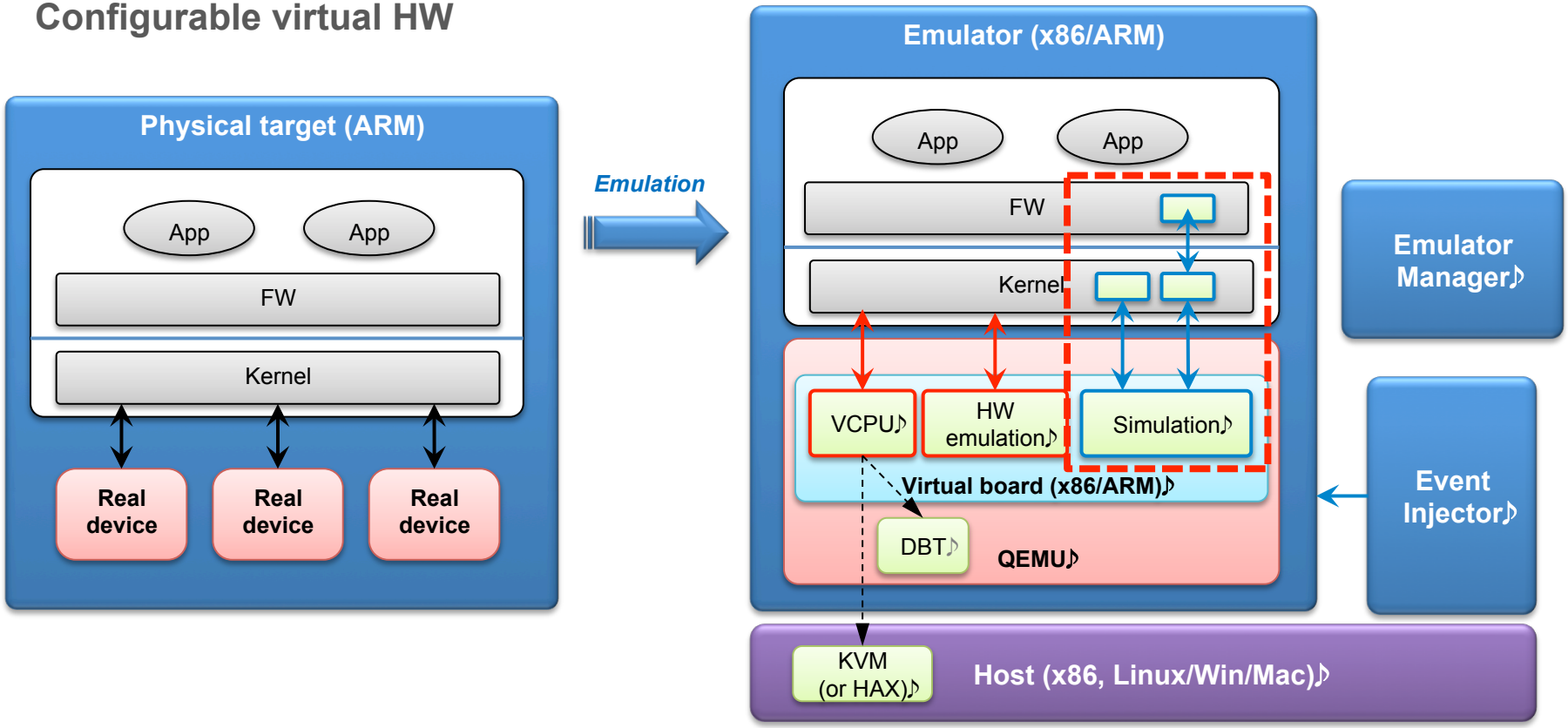




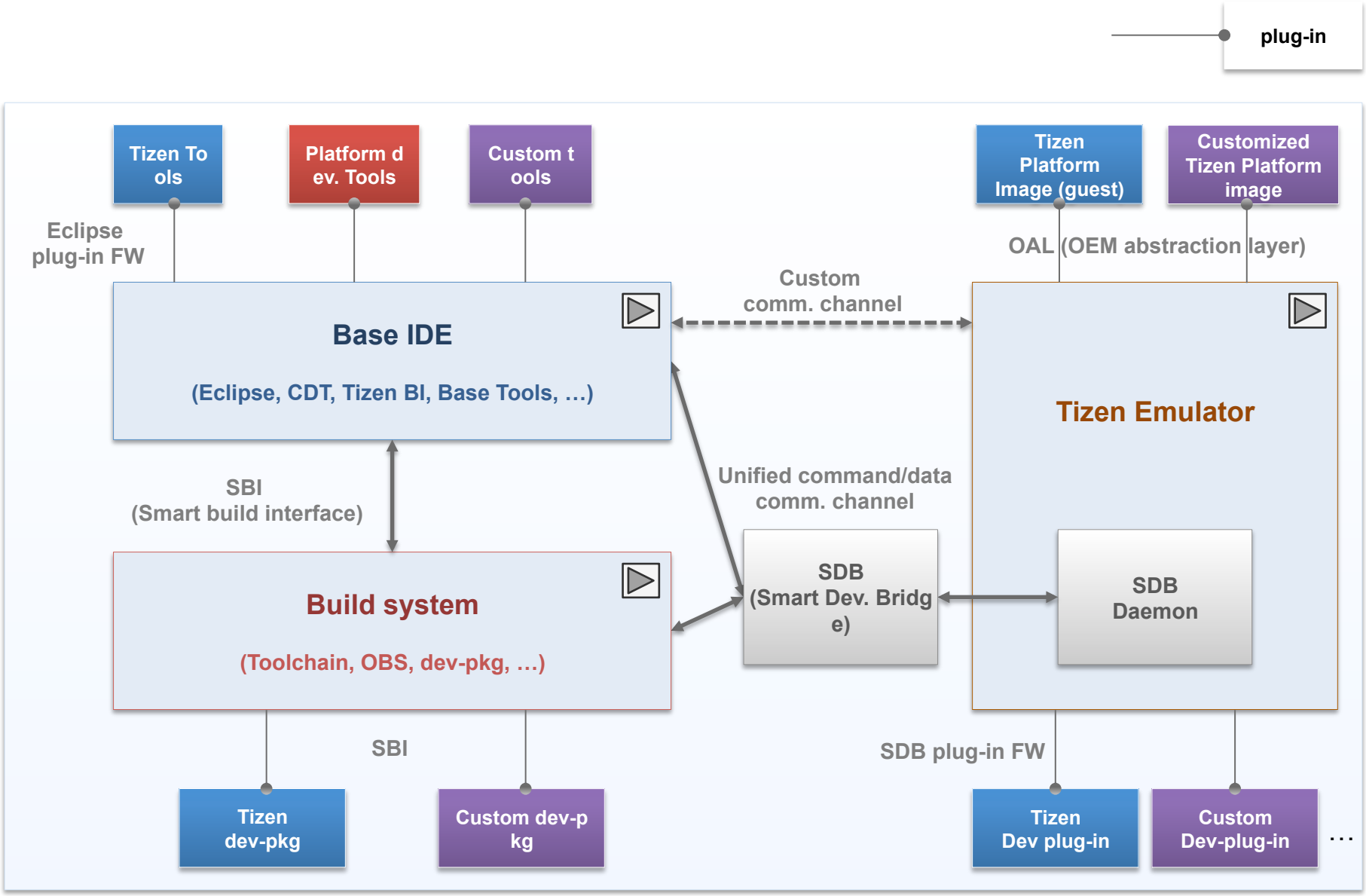
  - Multi-target (X86 & ARM) support: cross-compiler, emulator
- **Multi-instance**
  - Concurrent execution of multiple emulator & real device instance
  - IDE supports multi-project debugging (e.g., testing device-to-device communication app)

Technology: emulator

- Emulation of physical target (currently, phone-like)
  - QEMU Virtual board + Event Injector + Emulator manager (configuration)
- **Better performance and portability**
  - Not all devices are emulated due to performance & portability
  - OpenGL, Audio/Video codec acceleration
- **Configurable virtual HW**

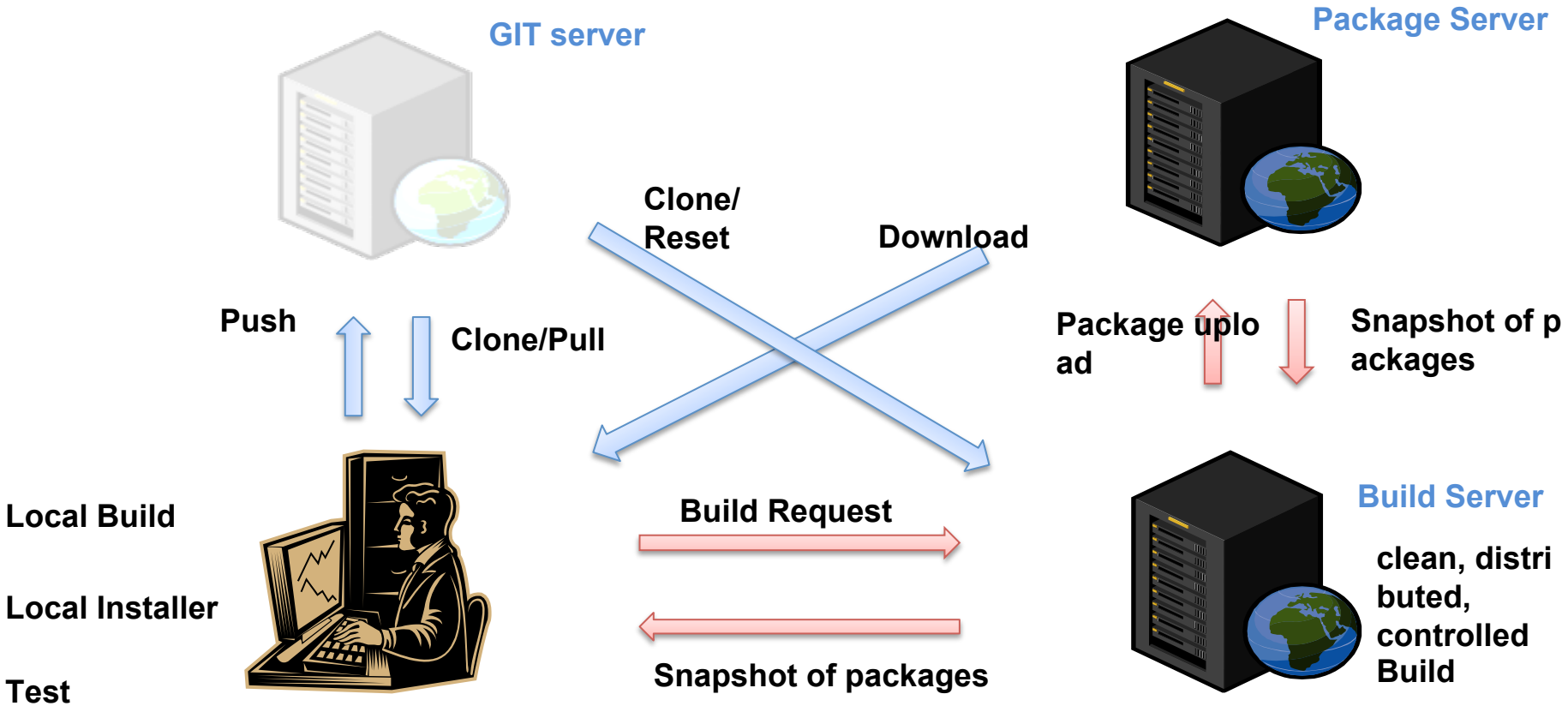


Technology: extensible architecture



Technology: robust development system

- **Robust development system (build, packaging, testing, installer, CI) and collaboration model/process for SDK itself**
  - SDK consists of a lot of tools with variety of distribution (version, multi-host OS, multi-target arch), which require well defined development/collaboration system
  - Consideration of open source / distributed development of each SDK module



Demo

Conclusion

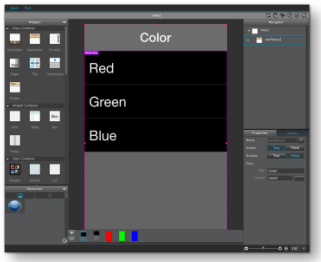
- **Done**
  - A “Smart” Tizen SDK 1.0 is now ready
    - https://developer.tizen.org/sdk (SDK binary),
  - Not only Tizen app development, but also Tizen platform development
- **Not finished**
  - Tizen platform/SDK is live (finished = dead)
- **Future works**
  - Native App: TBD
  - Web app GUI Builder
  - Mac & 64 bit support
  - Static/dynamic analysis tools for web app
  - ARM emulator
  - Variety of works are open to you: wish your interest & contribution
    - https://source.tizen.org (SDK source)

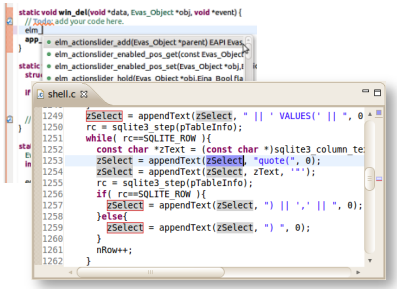
Thank You.

Appendix.

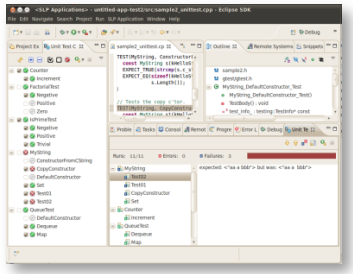
Native App SDK (TBD)

- **Native IDE**
  - Tizen SDK provides a rich and powerful Native IDE to develop native application
  - Native IDE is seamlessly integrated with various tools supporting developers during his development cycle





CREATE | DESIGN | CODE



RUN & DEBUG | TEST | ANALYZE