Porting Unity and HTML5 Games to Tizen Mobile

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Why Port Games to Tizen Mobile
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Summary
Why Port Games to Tizen Mobile

- New store = far less competition
- User base growing every day
- User hungry for new contents
- Developer friendly – new IDE
- Good performance (native & web)
- Popular game engine support
- Easy to port games to Tizen mobile
  - Unity Games
  - HTML5 Games
Popular Game Engine Support

### Unity
- #1 Game Engine & IDE
- Export to Tizen Native
- Optimized 2D and 3D

### Cocos2dx
- #1 Open Source, C++ Based
- Cross Platform GUI
- Optimized 2D, OpenGL
- **Manual Porting to Tizen Native**

### GameMaker Studio
- Commercial Game IDE
- Export to Tizen Native

### Construct 2
- #1 HTML5 Game IDE
- Export to Tizen Web
- Optimized 2D, WebGL

### HTML5
- www.html5gameengine.com
- Various HTML5 Game Engines
- Phaser, IMapctJS, IntelXDK, etc
- **Manual Porting to Tizen Web**

### GameSalad
- Commercial Game IDE
- Export to Tizen Web
- Tizen Cookbook Guide
Tizen Mobile SDK - Architecture

.NET Applications

Xamarin.Forms
Tizen.Xamarin.Forms.Extension
Tizen Platform-Specific API

Native Applications

Native Subsystems

.NET Core

.NET Standard API
.NET Runtime

Application Framework Base Content Location Messaging Multimedia
Network Security Social System Telephony UI Web

Linux Kernel and Device Drivers
# Tizen Mobile App Model

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Mobile Game Porting Lifecycle

Characteristics:
- Game consists of codes and assets
- More than just Developers:
  - Designers
  - Artists
  - Music/Sound Engineer
  - QA/Testers

Tizen Zx Remote Test Lab

What is Remote Test Lab
- Remote access Tizen OS over internet
- Test your app on real Tizen devices
- Cut down hardware cost for testing

Major Features
- Device reservation
- Apps (tpk/wgt) installation & execution
- Screen capture and recording
- Test automation function
- Session
- sharing function

Visit: http://developer.samsung.com
DEMO – TIZEN REMOTE TEST LAB
Porting HTML5 Games (Construct2)

1. Porting Initiation
   - Tizen Studio, Web SDK, Emulator
   - Construct2 Tools
   - Initial Construct2 Game Codes & Assets

2. Pre-Production
   - Construct2 Export Options (Tizen)
   - Dev: Bugs Fixing and Change Request
   - Final Settings for Tizen & Export

3. Production
   - Import Codes and Build Tizen WGIT
   - Deploy WGIT to Tizen Device
   - Or Deploy WGIT to Remote Device

4. Testing
   - Formal Details Testing (Play-Test)
   - Refinement Test (Fun and Accessibility)
   - Bugs Report and Change Request

5. Beta
   - Beta Testing with External Testers
   - Bugs Report (if any)
   - User Feedbacks

5. Release
   - Prepare Final WGT Version
   - Register to http://seller.tizenstore.com
   - Deploy to Tizen Store

HOW TO: https://www.scirra.com/tutorials/669/how-to-export-to-tizen
Many WebGL Game Engines Are Available

Game Porting Lifecycle
- Manual Porting = Without Export Tools
- Similar Lifecycle
- Manual Import of Engine Libraries

Critical Path
- JavaScript Compatibility
- W3C/HTML5 Standard
- Screen Resolution & Hardware Button
- Index HTML and Linking.js
- Tizen Configuration
- Packaging Wgt File

VISIT: http://html5gameengine.com/tag/webgl
DEMO – PORTING FROM CONSTRUCT2
YANUAR RAHMAN
Porting Unity Games

1. Porting Initiation
   - Tizen Studio, Native SDK, CLI, Emulator
   - Unity Tools with Tizen Build Support
   - Initial Unity Game Codes & Assets

2. Pre-Production
   - Unity Preferences & Build Setting
   - Dev: Bugs Fixing and Change Request
   - Final Settings for Tizen & Build

3. Production
   - Build Tizen TPK
   - Deploy TPK to Tizen Device
   - Or Deploy TPK to Remote Device

4. Testing
   - Formal Details Testing (Play-Test)
   - Refinement Test (Fun and Accessibility)
   - Bugs Report and Change Request

5. Beta
   - Beta Testing with External Testers
   - Bugs Report (if any)
   - User Feedbacks

5. Release
   - Prepare Final TPK Version
   - Register to http://seller.tizenstore.com
   - Deploy to Tizen Store

HOW TO: https://www.codepolitan.com/porting-game-unity3d-tizen
Critical Path of Porting Unity Games

• **External Libraries**
  – Minimize Reference to External Libraries (1MB .NET CIL ~ 3-4MB Arm code)
  – App can reach limit and make troubles in linking process

• **Unsupported Graphic**
  – DXT texture compression is not supported; use PVRTC formats instead.
  – Rectangular textures can not be compressed to PVRTC formats.
  – Movie Textures are not supported; use a full-screen streaming playback instead

• **Unsupported Audio**
  – Ogg audio compression is not supported.
  – Ogg audio will be automatically converted to MP3 in Tizen platform in the Editor.

• **Unsupported Scripting**
  – Dynamic features like Duck Typing are not supported.
  – Video streaming via WWW class is not supported.
  – FTP support by WWW class is limited.

**SOURCE**: https://docs.unity3d.com/Manual/tizen-gettingstarted.html
DEMO – PORTING FROM UNITY

YANUAR RAHMAN
Tizen Mobile Incentive Program

- For All Developers Globally
- $10K for Each App in Top 100
- Timeline: Feb 1st to Oct 31, 2017
- App Submission: Available in Store

- **Selection Criteria:**
  - The Top 100 apps are selected based on monthly downloads from the Tizen Store.
  - The Monthly Top 100 is calculated based on the number of downloads that occurred on all Tizen mobile phones and from all countries.

MORE: [http://www.tizenincentive.com](http://www.tizenincentive.com)
Showcases: Indonesia Game Ecosystem
Showcases: Tizen Porting
Summary

• Porting Unity & HTML5 Games to Tizen Mobile is Easy
• Game Porting Lifecycle Requires Tests and Bug Fixing
• Build and Export Tools Are Available For Various Game Engines
• Manual Porting for HTML5 Engines Are Trivial
• Remote Test Lab Available for Tizen Device (Z1, Z2, Z3)
• Tizen Incentive Available for All Developers Globally
THANK YOU

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