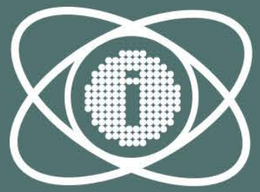

INDEPENDENT GAMES SUMMIT

Your Indie Game on Console

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PLAY EVERY WARE

We help indie studios and publishers bring their games to consoles

Console game development roadmap

- Onboarding
- Development - Overview
- Development - Unity
- Submission & Certification
- Publishing
- Ongoing Support

Expected timeline:

3-6 months

(x2 for networking)

Onboarding

Terminology

- **Dev Kit** – development hardware version of console system that lets you run unlicensed code
- **Host PC** – computer that is sending executable/assets to dev kit
- **Rom** – a package that contains your game's executable and resources that runs on the target platform
- **Mastering/Authoring** – process of creating a rom
- **Certification** – testing against a set of requirements games must have to release on a platform

Onboarding

Nintendo - https://developer.nintendo.com/register

Microsoft - https://www.xbox.com/developers/id

Sony - https://www.playstation.com/en-us/develop/

Onboarding

Dev Environment

- SDK (Software Development Kit)
- Tools & Middleware
- Documentation

Dev Hardware

- Connect to network or PC
- Updating Firmware
- Navigating debug menus
- Development accounts & online features

Onboarding

Setting up – Access to Engines

- Additional time needed to get access to Unity, Unreal, MonoGame, etc.
- Same with 3rd party plugins
- All middleware companies need to verify your status as an approved developer for a given platform

Onboarding

Publishing Pre-work

- Title Registration
- Age Ratings
- Back-end service config (online features)

Onboarding

Who to talk to

- Developer Support (technical)

- Publisher Support (logistical, release planning, bizdev)

- Testing teams (submission & certification)

Development - Overview

Platform Specific Features - General

- Graphics
- File System
- Memory
- Threading
- Input
- Asset build pipeline / tools

Development - Overview

Platform Specific Features – Xbox One

- Kinect
- User Account Management
- Achievements
- Stats
- Cloud saves
- Rich Presence
- Player stats (Leaderboards)
- 4K & HDR (Xbox One X)

Development - Overview

Platform Specific Features – PS4

- Trophies
- Rankings
- User Account Management
- Light bar
- Touch pad
- 4K & HDR (PS4 Pro)

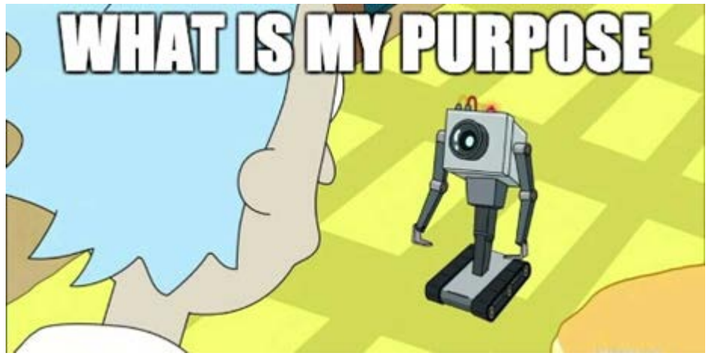
Development - Overview

Platform Specific Features – Switch

- Touch screen
- HD Rumble
- Nintendo Online Service
- Docked vs Handheld
- Multiple controller styles

Development - Overview

Technical Support



Development - Overview

Technical Support

- Email or forums
- Be prepared to wait
- Break down issue as small as possible
- Outline what you've tried already and the outcomes
- Imagine any question that could come up

Development - Unity

Development Overview

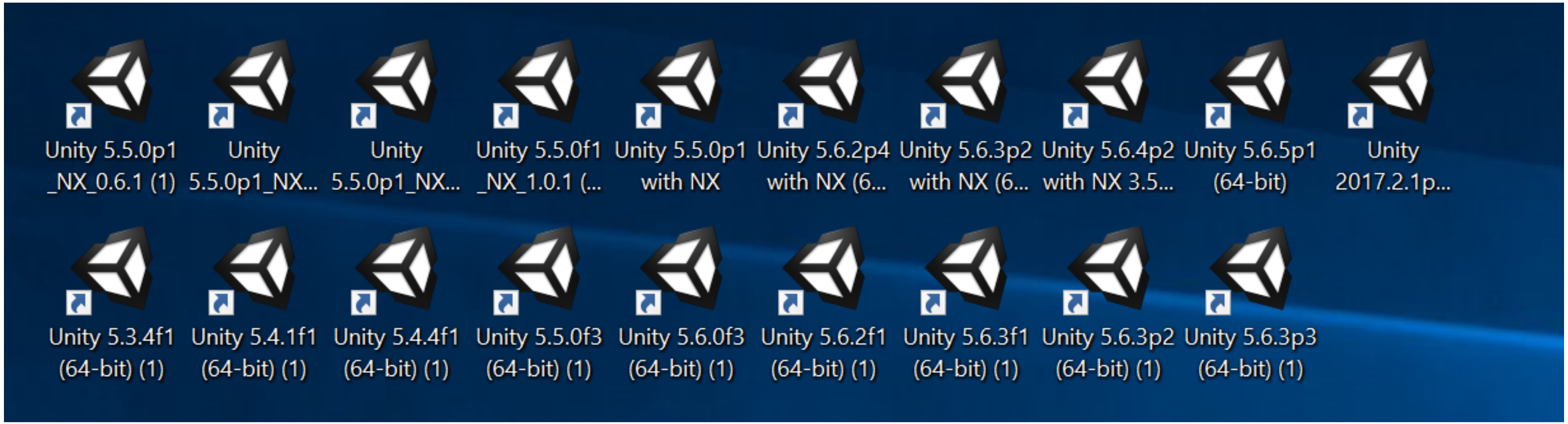
- Slow iteration cycle
- Existing Cert coverage vs. manual implementation
- Metadata configuration

Development - Unity

Version management

- Unity versions tied to SDK versions
- Issues with parity
- Upgrade/downgrade issues
- Manage multiple Unity installations

Development - Unity



Development - Unity

Asset Bundles

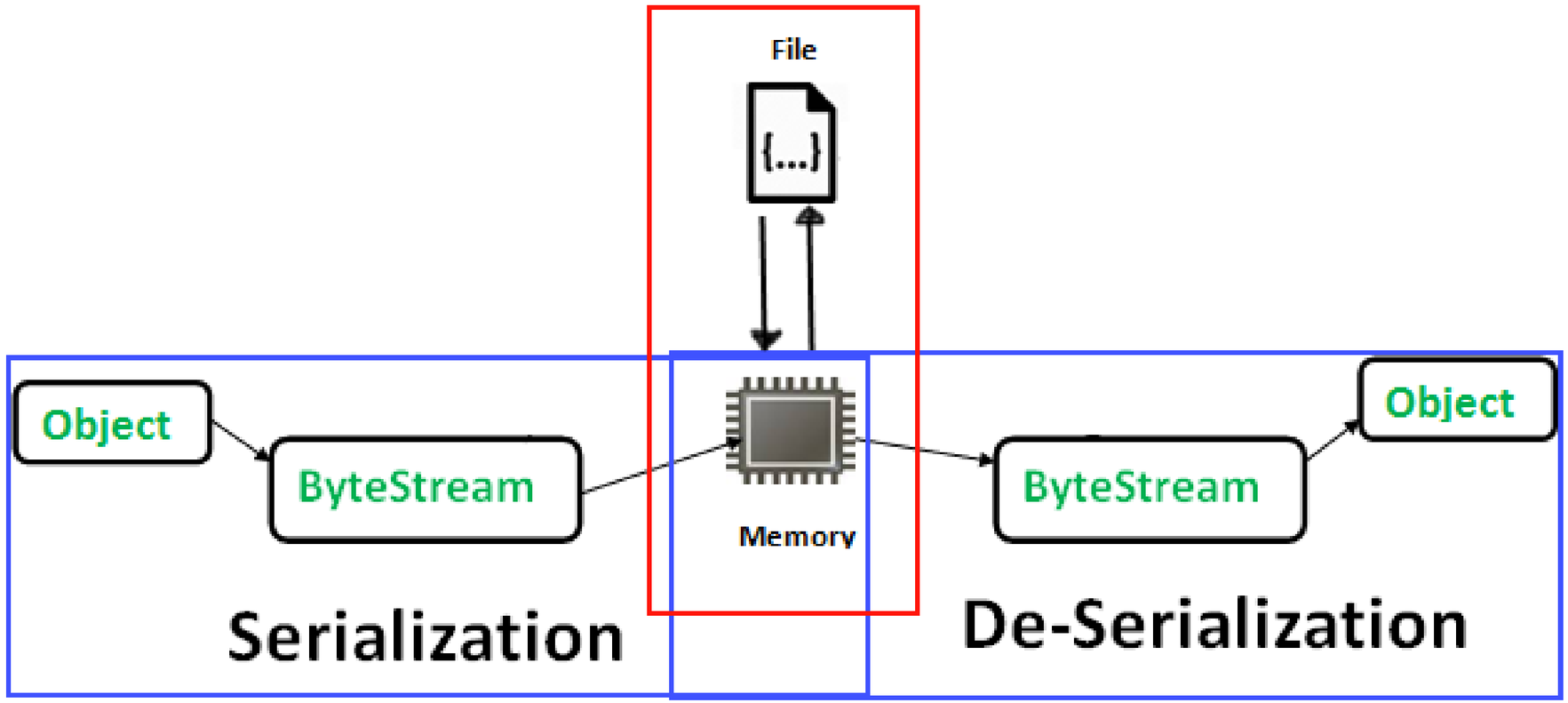
- Included with the game (not served online)
- Reduces read/write calls to file system
- Deterministic
- Reduces build time
- Reduces final rom size
- Highly recommended for file-based binary diff patches

Development - Unity

Player Prefs

- Common for indies on PC. Easy saving/loading of game data
- Not supported on all platforms
- Prefer a solution with a clear separation between:
  - Game data serialization (to string or memory buffer)
  - File system read/write operations

Development - Unity



Development - Unity

Debugging Strategies

- Script debugging while running in the Editor on PC
- Debug.Log statements *everywhere*
- Debugging the IL2CPP generated project
- UI debugging features

Development - Unity

Performance Optimizations

- Find lower Quality levels you're still happy with
- Common CPU performance issues

Development - Unity

Third Party Plugins

- Can make platform abstraction easier
- Can make Unity version management more difficult
- Bugs can popup on specific platforms and/or specific Unity versions
- Do they already support the platform? How good is their support?

Submission & Certification

Process Overview

- Process:
  - Submit
  - Wait
  - Fail
  - Fix & Resubmit
  - Wait…

Overall process could take 1-2 months

Submission & Certification

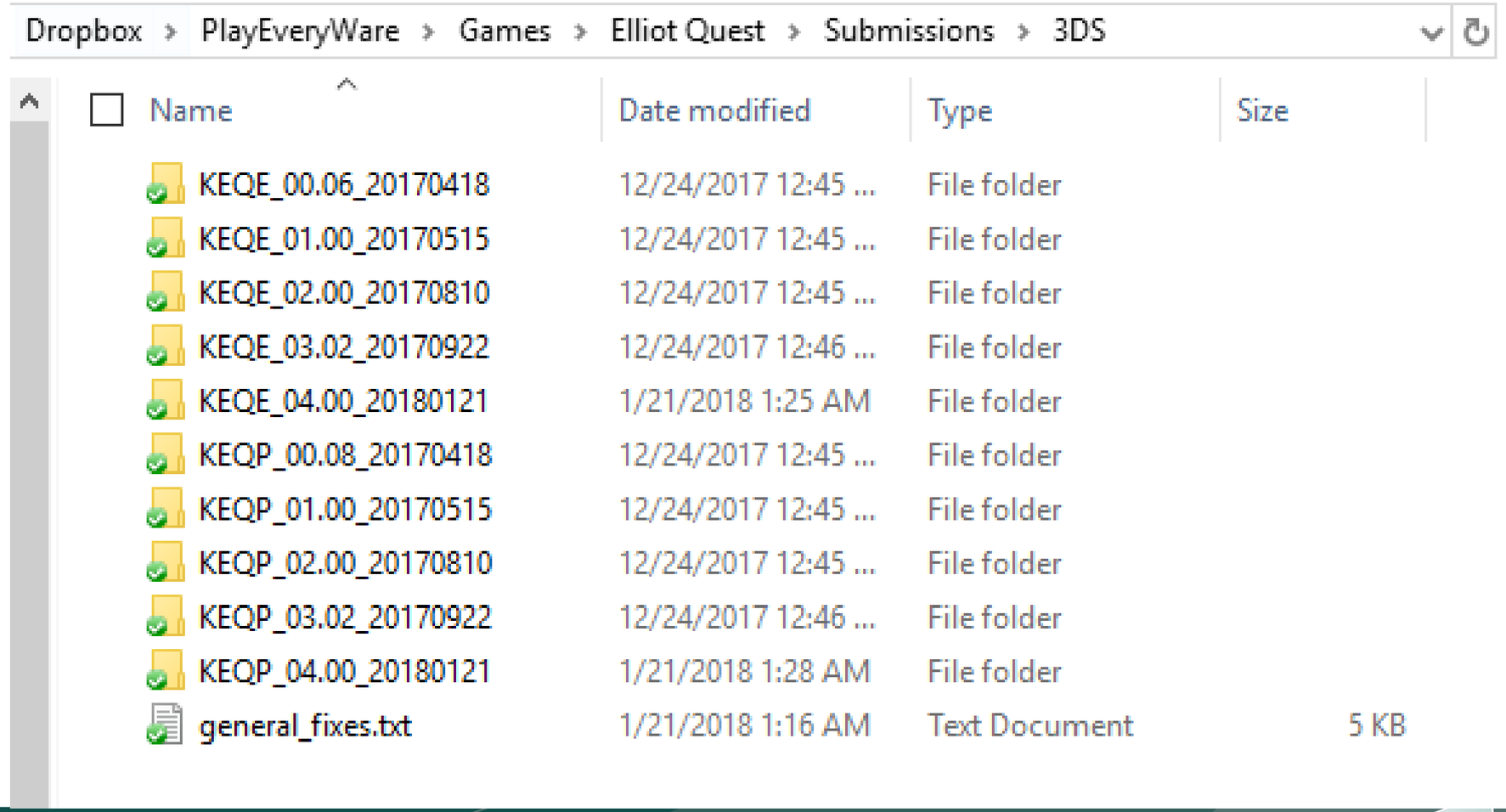
How to Submit

- Create a final rom with the proper version number
- Test!
- Upload package

Submissions might be regional specific

Keep a copy of every submission!

Submission & Certification



Submission & Certification

Test Results

- Failure reports are not conclusive
- Approval reports are not conclusive
- *Cert testing is not QA*

Submission & Certification

- Age Ratings
- Paperwork
- Revision number / submission number
- Title Stability
- Terminology and branding

Common Failures

- User account management
- Controller management
- Save data
- Authoring issues
- Error handling
- Localization

Submission & Certification

Waivers

Sometimes available, but don’t count on them

Due diligence is required:

- Diagnose issue with standalone test project
- Work with support to confirm issue is unfixable or there is no reasonable alternative

Publishing

Preparing for Release

Rom Approval

+ Store Asset Approval

= Scheduling a release!

Estimate: 2-4 weeks

This work can overlap with submission

Ongoing Support

Updating game with Patches

- Patch mastering process
- Patch submission process

Estimate:

10-45 days

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Thank you!

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