CREATE DEVELOP INNOVATE BUILD INSPIRE IMAGINE DESIGN

CSD2400-CSD2401-UXG2400-DAA2402
FALL 2023
INTRODUCTION

DigiPen INSTITUTE OF TECHNOLOGY SINGAPORE

Lecturers

Elie Hosry	Technical
Jing Ying Goh	Design
Holger Liebnitz	Design
Keh Choon Wee	Art
Alwyn Lee	Production
Vuk Krakovic	Audio
Dian Yang Goh (adjunct)	Technical

Responsibilities

high level view

- This CSD/UXG/DAA project is a fun and challenging course
- Students are expected to develop using the different skills learnt so far at the freshmen level!

Responsibilities

high level view

- BFA students
  - Draw, sketch, color, model and decide on art direction…
- BA UXGD students
  - UI/UX directions, prototyping, master the usage of tools (i.e. level editor), set their features, level design, scripting behavior and AI…

Responsibilities

high level view

- BSCS IMGD students
  - Programming from the ground up, systems (i.e. Physics, AI…), tools, level design, character design…
- BSCS RTIS students
  - Programming from the ground up, systems (i.e. Graphics…), low level core engine modules, engine architecture…

Tools & Software

- Main Software and Requirements needed:
  - C++ (CSD1171 level)
  - MSVS **2022**(C++ Windows project – X64)
  - Photoshop
  - Unity(C#)
  - 3dsmax
  - 3rd party libraries (listed in "*Libraries_for_CSD2401_Projects_-_v100.xlsx*")
    - Fmod, GLFW, ImGui, TinyXML, Jsoncpp, GLM(only for OpenGL), Freetype…

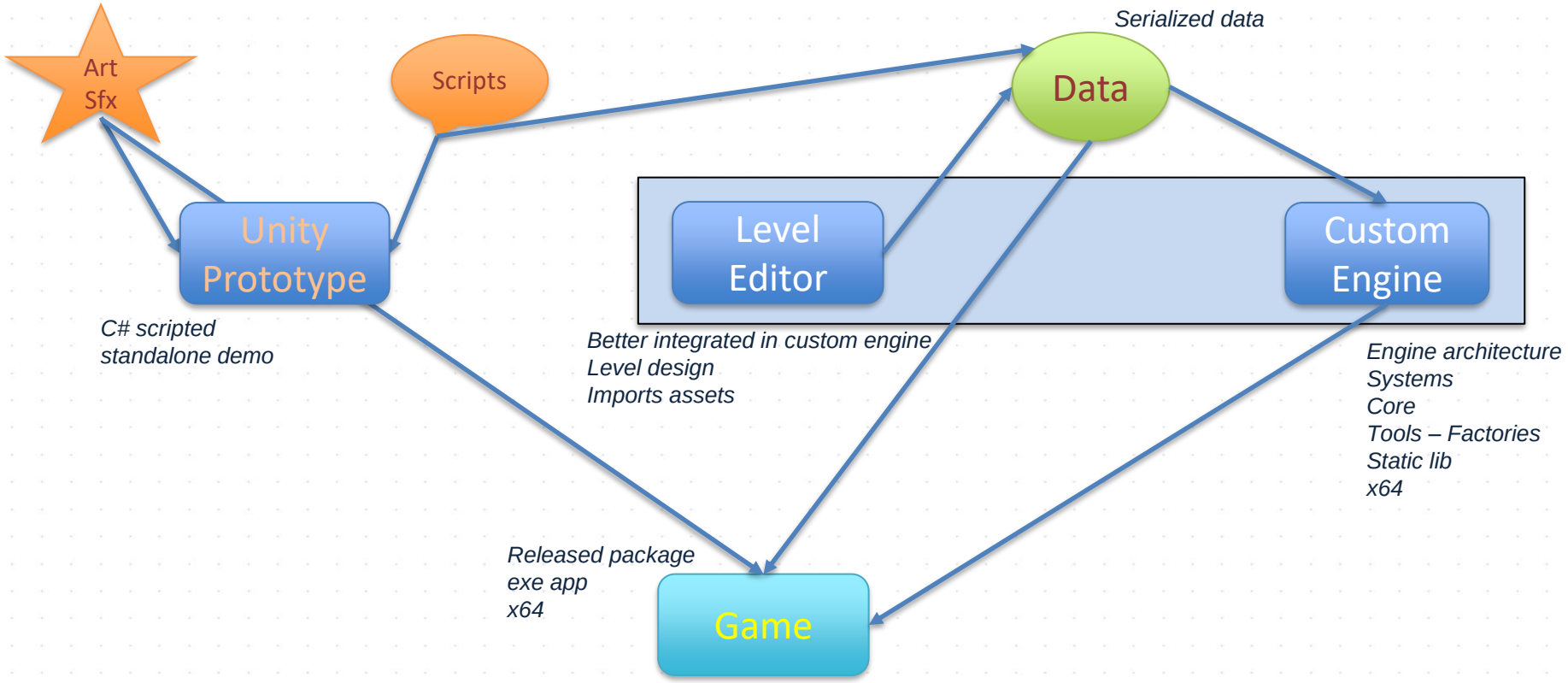
The Big Picture

- We are in a 2 trimesters project development:
  - Trimester1 – Fall 2023
    - M1: PROOF OF CONCEPT PROTOTYPE
    - M2: FUNCTIONAL PROTOTYPE
    - M3: PRE-ALPHA PROTOTYPE
  - Trimester2 – Spring 2024
    - M4: ALPHA
    - M5: BETA
    - M6: GOLD

The Big Picture

- We are in a 2 trimesters project development:
  - Trimester1 – Fall 2023
    - M1: Start a game engine from scratch
      - Sketch your project idea in a prototype
    - M2: Build development tools – Level editor
    - M3: Solid custom-engine prototype
  - Trimester2 – Spring 2024
    - M4: Use all the tools and the game engine to build ALPHA
    - M5: Content complete – System's optimization
    - M6: Deliver a fully polished game – Competition ready

The Big Picture



Fall 2023 – Rubrics

Simplified

- PROOF OF CONCEPT PROTOTYPE Milestone (Week05)
  - Major systems are integrated into engine
  - Data driven game objects
  - Good project organization
  - Math library implemented
  - Basic sprites and backgrounds displayed
  - Debugging tools – Performance data
  - Basic Physics and Collisions – CSD1130 level

Fall 2023 – Rubrics

Simplified

- PROOF OF CONCEPT PROTOTYPE Milestone (Week05)
  - Real time prototype (Unity, Unreal…)
  - Game concept ready
  - Mockup screens for game environment
  - Character design and props
  - Concept design for characters
  - UI design
  - Consistent Art direction

Fall 2023 – Rubrics

Simplified

- FUNCTIONAL PROTOTYPE Milestone (Week10)
  - All systems integrated in custom engine
  - Higher penalties for any essential missing feature!
  - Collision-Physics response
  - Transformations
  - All necessary Graphics, Physics, Input and AI your game needs
  - A functional prototype demo in custom engine, at best! or using (Unity, Unreal…)

Fall 2023 – Rubrics

Simplified

- FUNCTIONAL PROTOTYPE Milestone (Week10)
  - Game play testing
  - Detailed level design
  - Detailed animations
  - AI gameplay interaction with player(s)
  - Full in-game UI (custom engine or Unity)
  - A working Level editor (with essential functionality)

Fall 2023 – Rubrics

Simplified

- FUNCTIONAL PROTOTYPE Milestone (Week10)
  - At least first pass quality Art assets
  - Game art must show improvement from prior milestone
  - Complete character animations
  - Above average UI quality

Fall 2023 – Rubrics

Simplified

- General
  - Student are supposed to fulfill all the rubrics for the upcoming milestone first, on top of all other priorities
  - The product manager of every team is responsible on tasks management for any upcoming milestone delivery

General Feedback

- Learn from your prior postmortems
  - Form teams with common interest
  - Do not hide behind other teammates
  - Push your learning skills to their limits
- Keep in mind Re-Usability
  - Coding or Drawing, creating templates, creating independent modules
  - Can be re-used in future projects

General Feedback

- Drawbacks we see in CSD1451
  - Messy Structures
  - Global code accessed every where
  - Repeated chunks of code!
  - No real designers – No real artists
  - No cross disciplines communication
  - No enforced level editor
  - Lack of trust and respect to others
  - Blaming others first! (easy way out)

General Feedback

- Drawbacks we see in CSD1451
  - Lack of planning
  - Over estimating – Over extensions to targets
    - Thinking too high with no solid grounds!

What's New this year?

- Revamped syllabus and enhanced grading system
- Higher number of teams
- New teacher on board

Synchronous Tech lectures

Most tech lectures will be synchronous, live, on MS-Teams, at the same time for both sections CSD2401-A and CSD2401-B:

- Mondays @ MS-Teams (Elie)
  - @ "**csd2400f23-csd2401f23-combined.sg**" team
  - 4:00pm … 6:00pm
  - Week 2, 3, 6, 8, 11
  - Check full schedule at Alwyn's slides

Asynchronous Tech lectures

Some tech lectures will be pre-recorded, and their links will be posted on moodle "csd2400f23-csd2401f23-meta.sg":

- i.e.
  - Technical rubrics explanation of M1
  - Individual Milestone Report and coding requirements for RITS/IMGD students

Good luck!

- We wish you a solid and strong start ☺
- Time is critical, as you know!
  - Have a detailed time management scheduler, across all your modules
  - Meet your team during week 1 and set your first weekly goals!
    - Respect your job and deliver your tasks on time
    - Raise an early red flag otherwise! [To your PM]
  - Research vs Dev
  - Sample Engine [*not your startup engine!*]