Pre Production

Fundamentals of Game Development

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Preproduction

- First faze of the video game development production cycle.
- It is critical to define “What the game is?”, “How long the game need to complete?”, “How many resources the game needs” and so on.
- 10% to 20% of the estimate time of development is for preproduction.

3 Biggest component of preproduction

- Concept:
  The idea of your game.
- Plan:
  Game Concept.
  Core Game Mechanics.
  Game Play Features.
  Game Play Breakdown.
  Project Scope Breakdown.
- Prototype:
  Creating a rough functionable test of your game mechanics, functions and art direction.
  Actual game and art assets are not necessary in this part.

Preproduction

- At this point, you already have an approved game proposal outlining your game.
- Preproduction is gearing up time to eventually get ready for development of the game.
  - The goal is to complete the game design, produce suitable documentation, and do some technical prototyping to demonstrate its feasibility.
- You need to provide a proof of concept.
  - Preproduction basically proves your team can make the game and that the game is worth making.
  - If you cannot do this successfully, you and your idea may be written off in favor of something else.

Preproduction Documentation

- Several documents are written during the preproduction phase.
  - They help flush out and formalize initial ideas and concepts from the proposal.
  - They provide a blueprint for when the game actually goes into development.

- This documentation includes:
  1. The game design document,
  2. the art bible,
  3. the production path,
  4. the technical design document, and
  5. the project plan.

The Game Design Document

- By the end of preproduction, you should have a game design document detailing everything that will happen in your game.
  - This includes information about gameplay, user interface, story, levels, puzzles, and so on.
  - This is equivalent to a functional specification in more traditional software development.
- Expect this document to change frequently and evolve over time.
  - Keeping it electronic and not on paper is definitely a good idea.

The Art Bible

- During preproduction, it is important to establish a consistent look and style for the game as early as possible.
  - Much of this can be pencil sketches, but colored glossies can have a bigger impact.
  - Notes and annotations of the artwork should also be included for additional references.
  - Descriptions of artistic styles, directions, instructions, and limitations should also be included.
- The art bible can also be the source for story boards and other concept art included in the design document.

The Production Path

- During preproduction, you need to determine how to go from concept to reality, from ideas to something concrete.
- This is called the production path.
- This includes:
  - Art tools, modelers and rendering tools, level editors and design tools, music and sound tools, game engines, software development tools, and so on.
- All of these tools must be compatible!
- This must be worked out now so that costs and timings in acquiring the tools can be factored into the project plan.

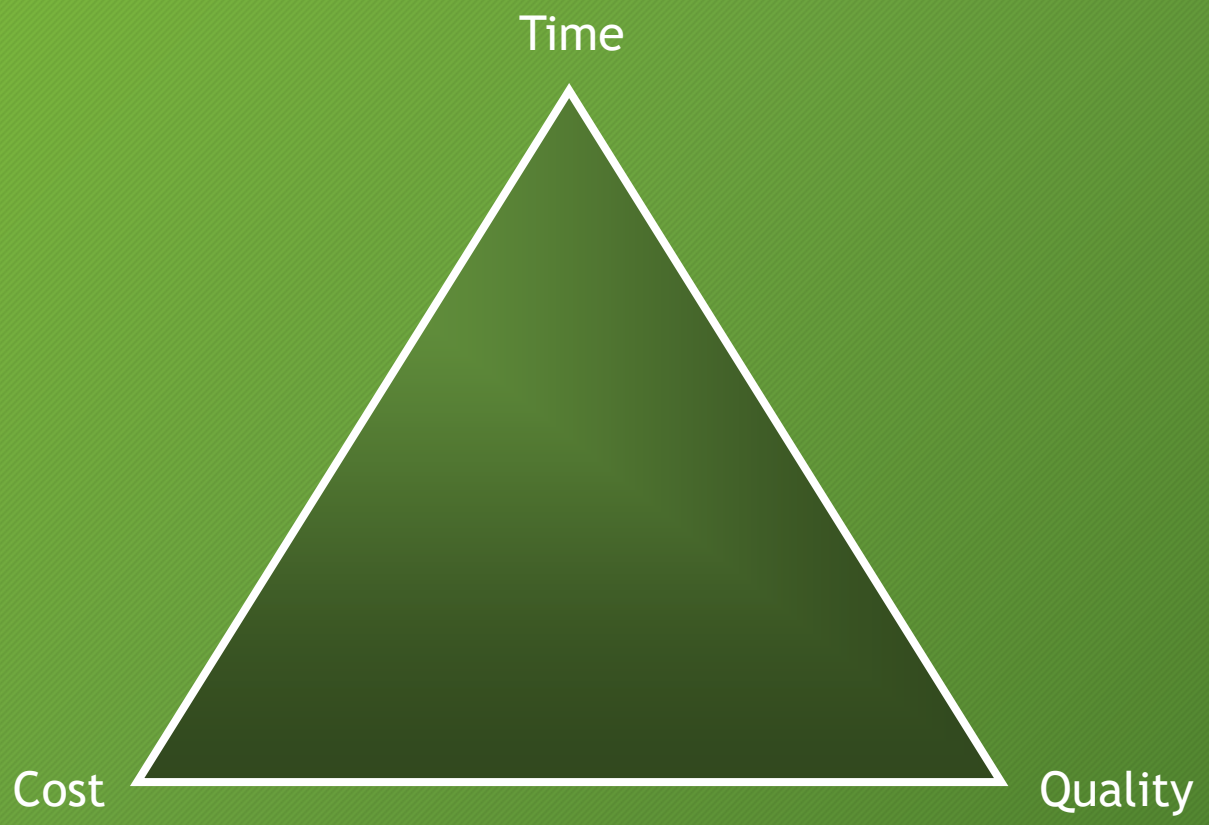
The Technical Design Document

- This document complements the game design document discussed earlier.
  - The game design document describes how the game will function.
  - The technical design document describes how that functionality will be implemented.
- This includes:
  - Software design and code structure.
  - Descriptions of artificial intelligence, animation, graphics, sound, networking, and other technologies used in implementing the game.

The Project Plan

- This is a roadmap describing how the game is going to be built.
  - Start with the tasks to be completed.
  - Establish dependencies among these tasks.
  - Add overhead hours.
  - Use all of this to develop a schedule.
- The project plan usually includes:
  - A resource plan, a budget, a schedule and milestones against which progress can be tracked.
- Software tools and standard software project planning techniques might be able to help here.
- The project plan must be revised and updated throughout the project!

The Project Plan:
The Constraint Triangle



The Project Plan:
The Constraint Triangle

- Ideally, we would want all games to cost nothing, to be built instantly, and to have infinitely good quality.

- In reality, in order to change one of the time, cost, or quality goals, we must provide slack by adjusting one of the others.
  - We can decrease time by adding more personnel (costing more money) or by reducing quality.
  - We can reduce costs by using fewer developers (and increasing development time) or by reducing quality.
  - We can increase quality, but will require either more developers or more time to do so.

The Prototype

- The tangible end result of preproduction is the game prototype.
- This is a working piece of software that captures the essence of the game on screen.
  - What makes it special, better than the rest, and what will turn it into a hit.
- It is important to capture the look and feel of the game properly.
  - This may make or break further development.

The Prototype

- Pulling off a good prototype is hard.
  - Much of the technology and content has yet to be started, let alone completed.
- In many cases, most developers simulate aspects of the game.
  - Pre rendering material, for example.
- Sometimes, stand-alone technology demonstrations are used.
  - They might not look pretty, but they show that your goals are reachable.
- Prototyping shows the vision of the game, but also establishes that you can go from ideas to reality in a reasonable and effective way.

Finally

- After this we will go into the production phase!