# the gamedesigninitiative
## at cornell university
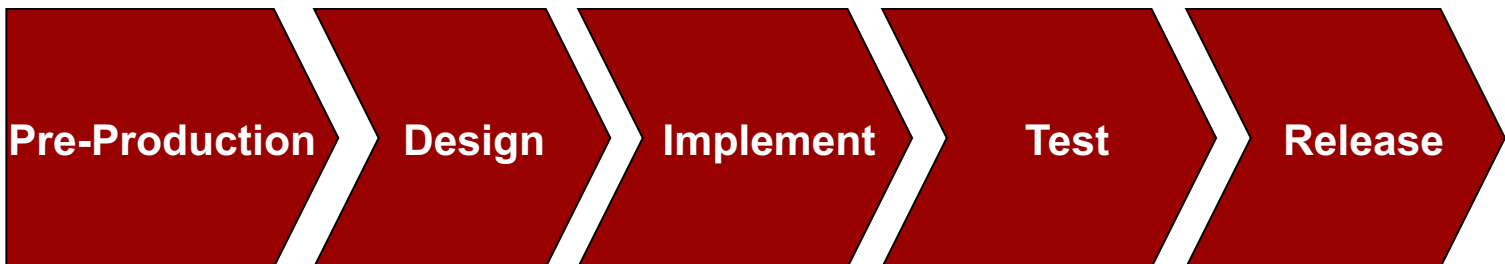
# Development Process

# Software Development

- **Design** process
  - Decide what game you want to make
  - Create a *specification* of your design

- **Development** process
  - Implement your specification
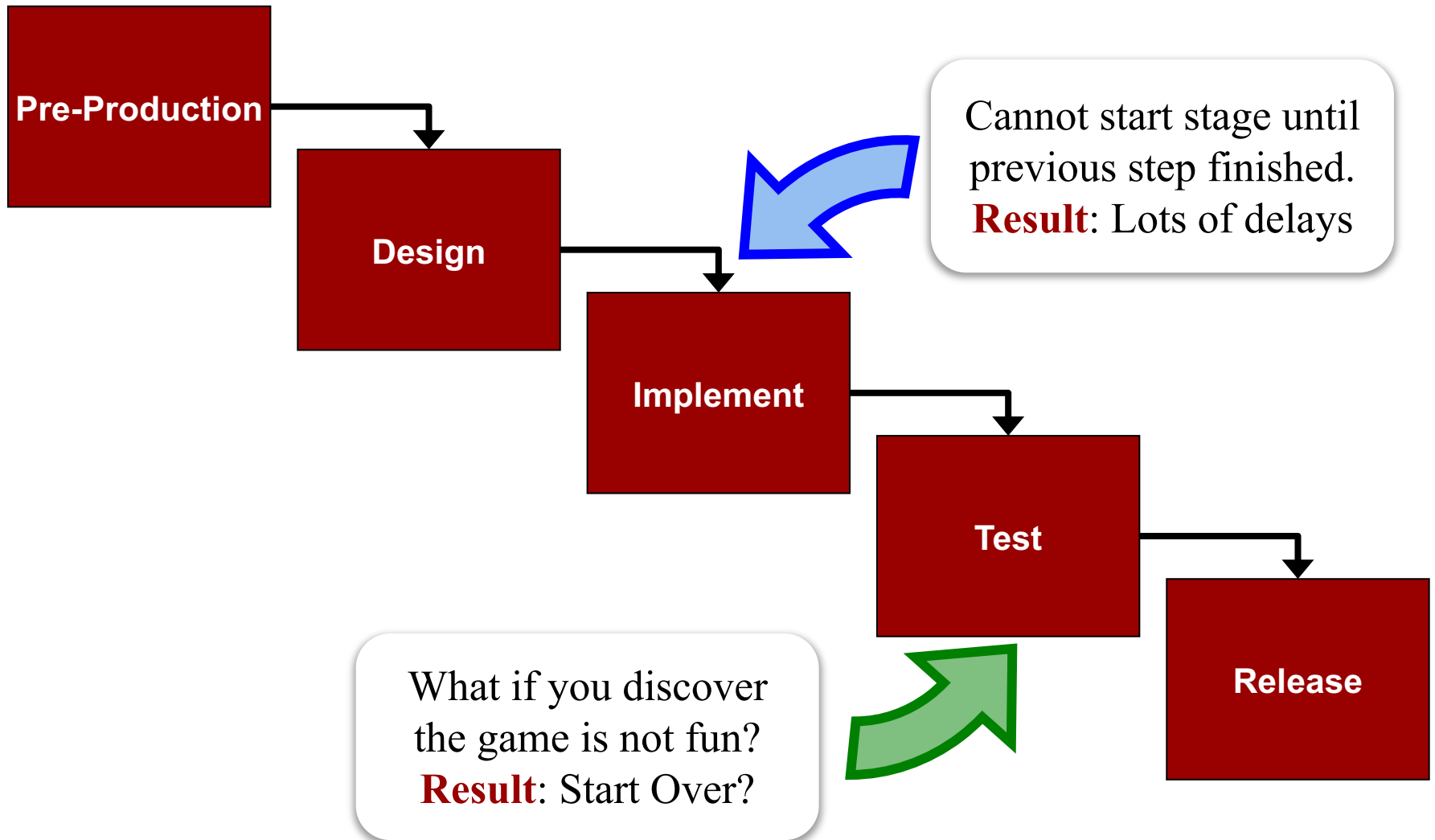  - Test result to make sure it works

- **Release** (yeah!)

# The Traditional Model

- Document extensively; design to specification
  - Design and documents done before coding starts
  - Development follows a specified project timeline

- A general software engineering model
  - Often called the *waterfall* model

**Pre-Production** ▷ **Design** ▷ **Implement** ▷ **Test** ▷ **Release**

# Waterfall Model

Pre-Production

Design

Implement

Cannot start stage until previous step finished.
**Result**: Lots of delays

Test

What if you discover the game is not fun?
**Result**: Start Over?

Release

# The Iterative Model

- Cannot evaluate game without playing it first
  - **Iterate**: Rethink design from intermediate results

- Should be playing 20% into development!
  - This requires *prototypes* (may be nondigital)
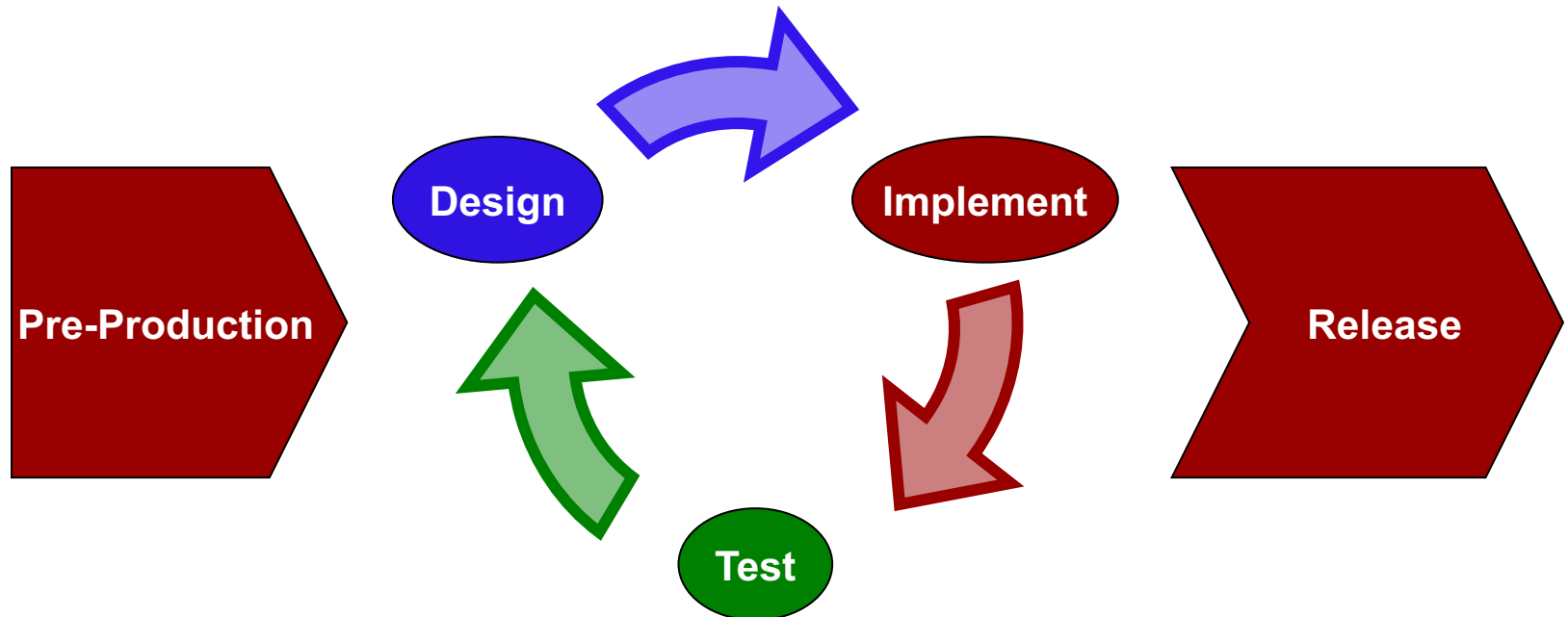
# SCRUM & Agile Development

- Iterative model is called **agile development**
  - The most popular agile method is **SCRUM**

- Key (but not only) idea: **SCRUM sprint**
  - Focus on a small, but testable deliverable
  - 3-4 weeks in industry; 2 weeks in this class

- **Sprint Backlog**: features left to implement
  - Chosen to implement for this sprint
  - Re-evaluate features at end of every sprint

# SCRUM Sprint



Product Backlog

Sprint Backlog

Sprint

Feature Release

Features at the end

Features this Sprint
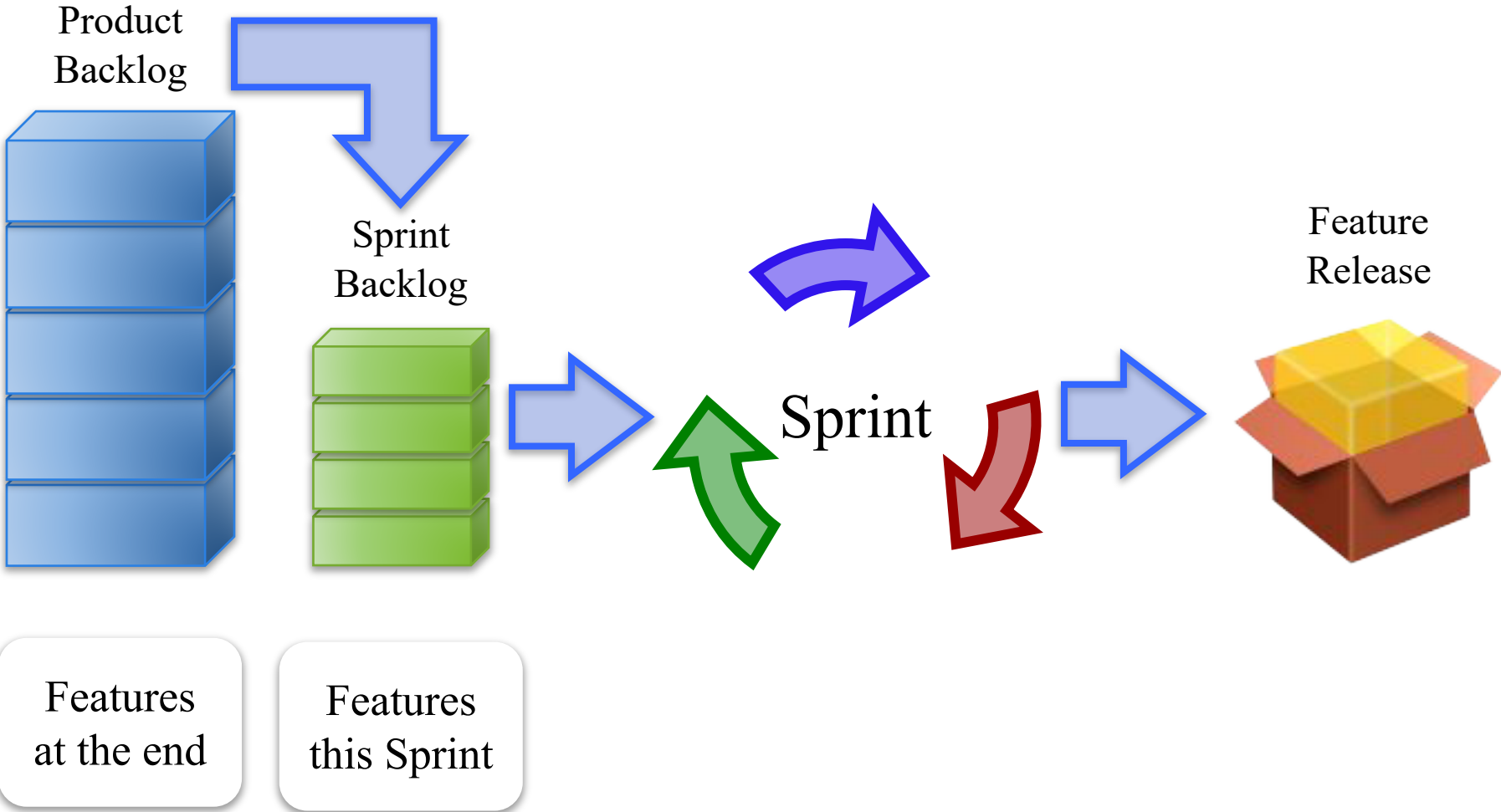
# Documentation

- Major part of the development process
  - Why course counts for technical writing
  - Ensures group is always on "same page"

- At every point of development
  - **Pre-production**: concept document, gameplay
  - **Sprints**: reports, architectural specification
  - **Release**: game manual, post-mortem

- Challenge is understanding your *audience*

# Pre-Production Documentation

- **Concept Document**
  - Describes the basic idea behind your game
  - Communicate core vision without too many details
  - Focus of Communication Lab next week
  - **Audience**: a game publisher (to get funding)

- **Gameplay Specification**
  - Thorough overview of your gameplay
  - Include formal design elements shown in class
  - May change as part of your sprints!
  - **Audience**: new team members (hired later)

# Sprint Documentation

- **Reports (every 2 weeks)**
  - Outlines the upcoming sprint (who does what)
  - Reflects on previous sprint (did you meet goals?)
  - Written as a *group document*
  - **Audience**: your game producer

- **CATME Reports**
  - Online tool for reporting your progress
  - Completed as *individuals*
  - Allows us to look for problems in group

# Using CATME for Reports



**http://www.catme.org**

# Detailed Specifications

- **Architecture Specification**
  - Outline of your software organization
  - Used to distribute tasks to programmers
  - **Audience**: team programmers

- **Design Specification**
  - Outline of your design vision
  - Also includes technical details of asset handling
  - Used for to help designers work together
  - **Audience**: team designers

# Detailed Specifications

- **Architecture Specification**
  - Outline of your sof...
  - Use... ...programmers
  - **Audience**: team programmers

    Directed by the Lead Programmer

- **Design Specification**
  - Outline of your design vision
  - Also includ... ...ndling
  - Use... ...igners work together
  - **Audience**: team designers

    Directed by the Lead Designer

# Release Documentation
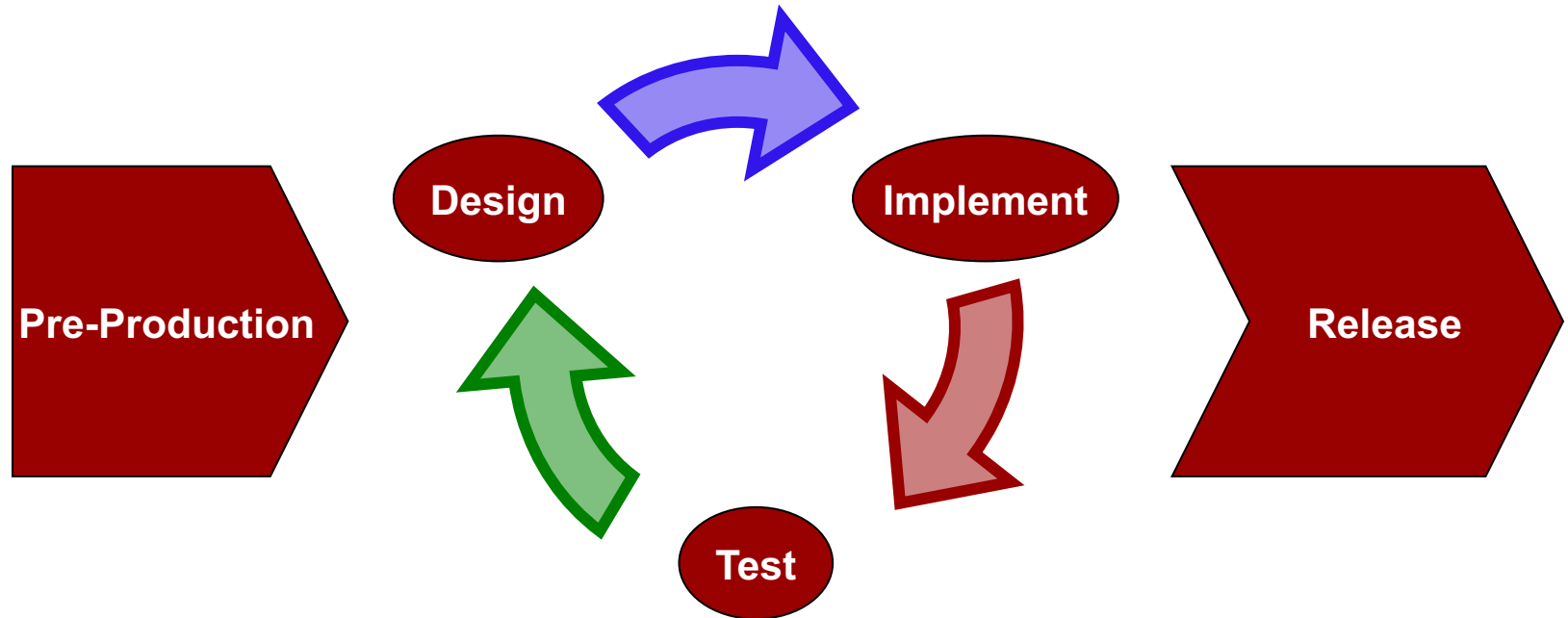
- **Game Manual**
  - Concise description of gameplay
  - Instructions on how to play the game
  - Story, other material to improve the setting
  - **Audience**: your players

- **Postmortem**
  - *Honest* reassessment of what happened
  - What went right; what went wrong
  - **Audience**: yourself (for next time…)

# Development Process Review



- **Pre-production**
  - Initial design
  - **Concept Document**
  - **Gameplay Spec**

- **Two-Week Sprints**
  - Playable prototypes
  - **Reports**
  - **Arch/Design Spec**

- **Release**
  - Public Showcase
  - **Game Manual**
  - **Postmortem**