Computer Games Laboratory

I15, Kick-off

# Instructors

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Course Goals

1. Learn and apply central elements of modern computer game design and programming

2. Design & implement your own game project

3. Reinforce CS and graphics knowledge

4. Practice "soft skills" and project management

Course Goals

- Capstone course: cumulative knowledge transferred to task of creating video game

Game Lab(s)

GE Master

GE Bachelor
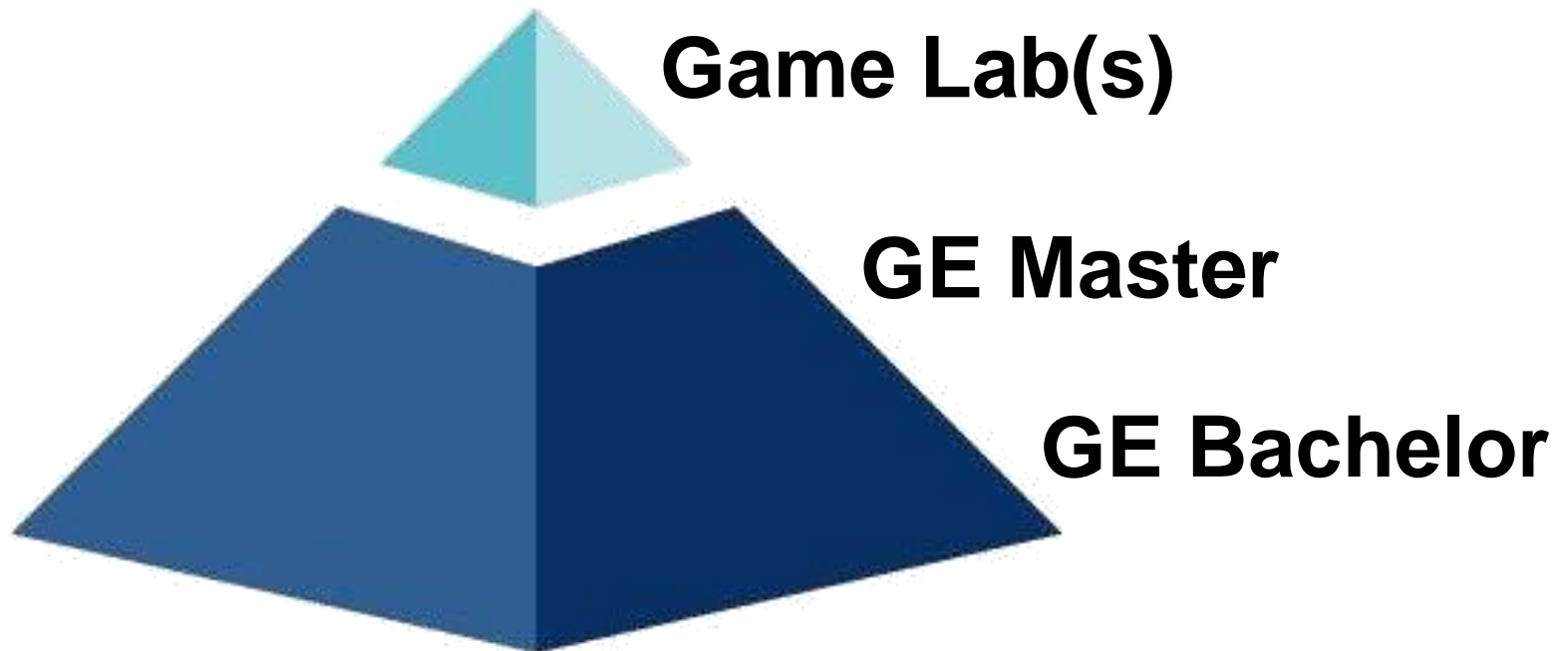
Prerequisites

- Strong interest in computer graphics and game tech

- Intro (advanced) courses in computer graphics

- Ability and interest to work in teams

- Some artistic skills can help

- Time & motivation

Course Elements

- Lectures: background & basics, structure

- Milestones: delivery deadlines, documentation

- Presentations: get feedback, track progress

Grading

- We will track your performance
  - Each of you: private summary of own contributions

- Project plays most important role
- Criteria:
  - Technical & artistic complexity of project
  - Project plan and milestones met
  - Assignments
  - Presentations
  - Teamwork
  - Creativity

Resources

- Main Website:
    - http://wwwcg.in.tum.de/teaching/teaching/winter-term-2022/computer-games-laboratory.html
    - Project structure / assignments
    - Lecture slides
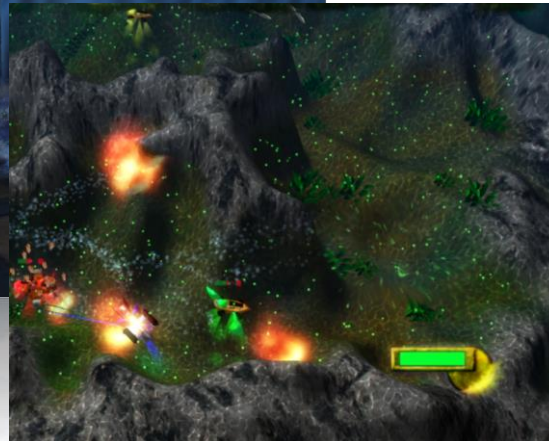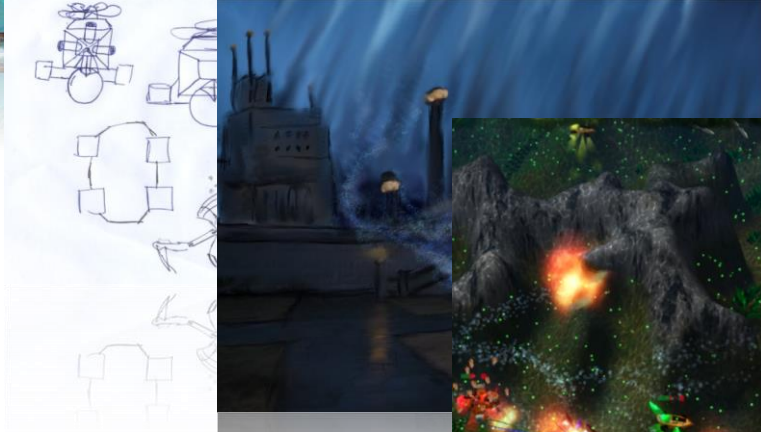   - …
- Wiki
    - Upload your contributions there

Book

?
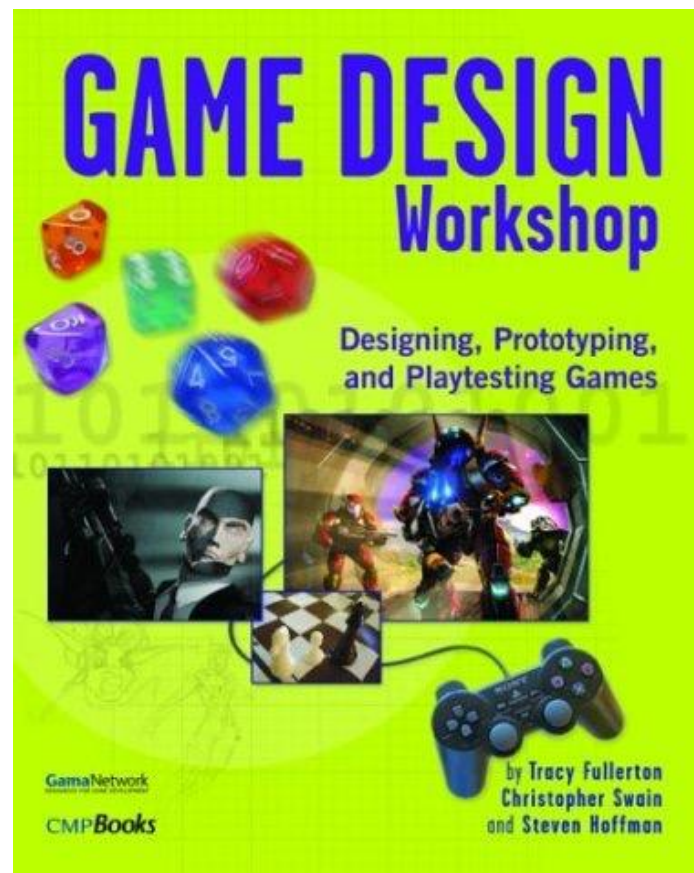
Project Structure

Teams

- 3-4 Students per team
- Every member should contribute equally
- Considerations
  - Interests
  - Skills
  - Working hours
  - Meeting locations…

"Design & implement your game"

- But … that's very challenging!
- Detailed project management
  - Written project document
    - Actual idea/game documentation
    - Progress & timeline
  - Presentations / demos
  - Critiques, mutual feedback
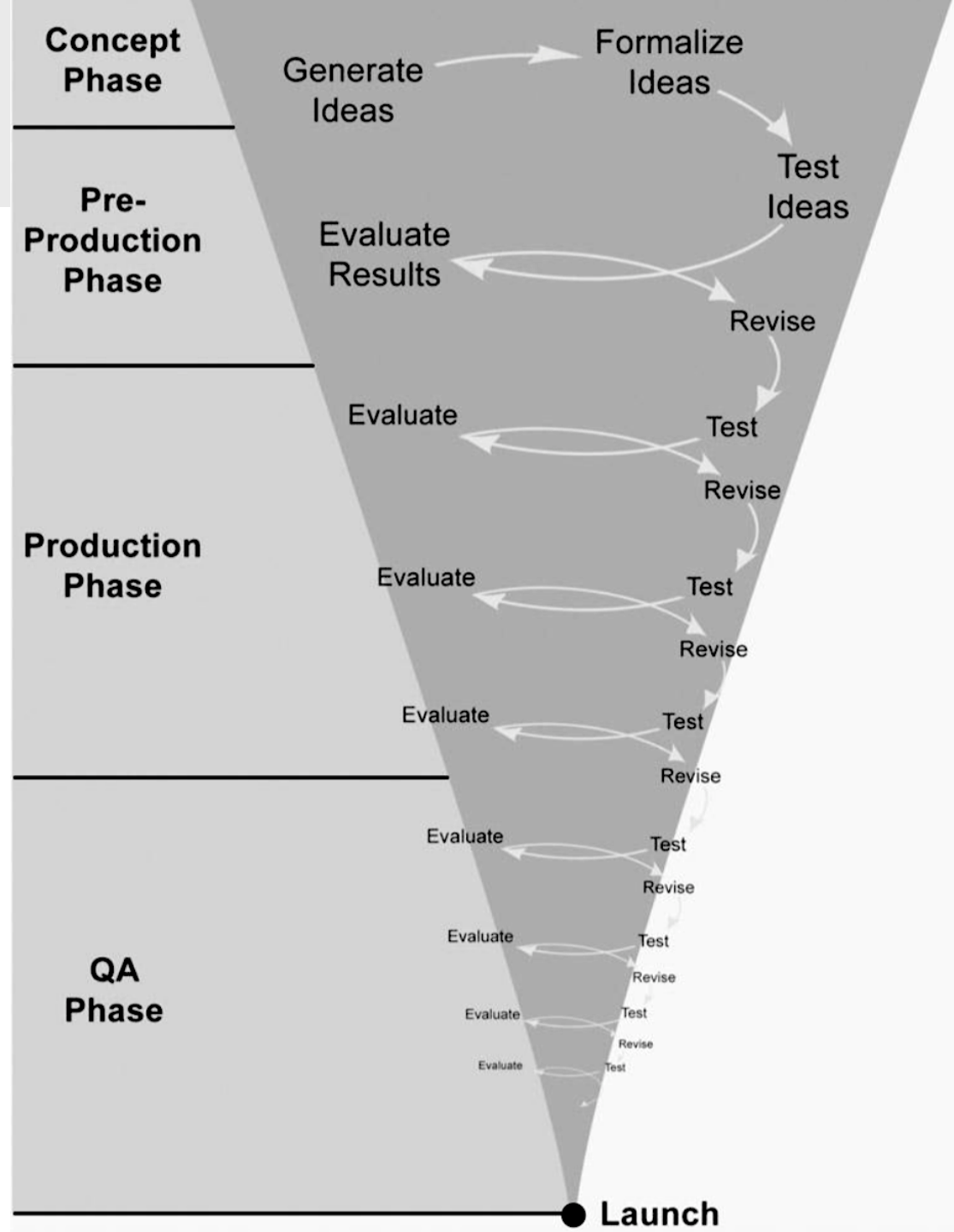 - Software engineering principles

Organization

- Project structure document (written by us)
- Detailed project notebook (written by you)

- All written documents in the course Wiki
- Written assignments due Mondays at 14:00
- Presentations in class

Iterative Design

- Keep game on track

Concept Phase

Generate Ideas → Formalize Ideas

Test Ideas

Evaluate Results → Revise

Pre-Production Phase

Evaluate → Test → Revise

Production Phase

Evaluate → Test → Revise

Evaluate → Test → Revise

Evaluate → Test → Revise

QA Phase

Evaluate → Test → Revise

Evaluate → Test → Revise

Evaluate → Test → Revise

Evaluate → Test

● **Launch**

Milestones

1. Game idea pitch
2. Formal proposal & prototype
3. Interim demo
4. Alpha release
5. Playtesting
6. Final presentation!

Milestone #1

- Game description
  - 1-3 pages
  - 3 pages sketches / mock-ups
  - Highlight and justify design choices
- Development schedule
  - Layered task breakdown
  - Timeline & milestones
- Assessment
  - Strengths, appeal, criteria for success…

Development Schedule

- Functional Minimum
  - Just enough to call it a game…
- Your Low Target
  - The least possible to feel "ok"
- Your Desired Target
  - This is what you're aiming for
- Your High Target
  - If things go extremely well
- Your Extras
  - Things you know won't fit, maybe for later…

Development Schedule

Task	Description	Who	Hrs	Actual
1	Brainstorm design	All	4	8
2	Character modeling	Stan	12	26
3	Camera control	Kyle	6	
4	Prepare presentation	All	6	
5	Explosion effect	Kenny	12	

Development Schedule

Task	Wk1	Wk2	Wk3	Wk4	Part 3 Due	Wk5	Wk6	Wk7	...
1	A								
2		L	L						
3			T						
...									

Advice

Think Small!

- Do one thing well
- Make game stand out!
- Better than doing lots of stuff half-way
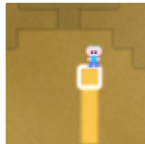
Big Idea Sheet

- Keeps project focused, common ground

Further Inspiration

- experimentalgameplay.com

Verbocity, by Pat

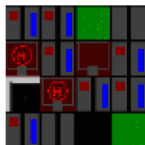Clever but very difficult word game city builder mashup.

Tower of Pixel, by Alan Zucconi

Build a tower out by digging and carrying blocks, simple but surprisingly addictive.

Station Repair Squad 2904, by 0x0961h

Use different construction ships to build and repair a space station based on blue prints.

City Builder, by Jackson C.

Dig up dirt to build houes, apartments, and monuments.
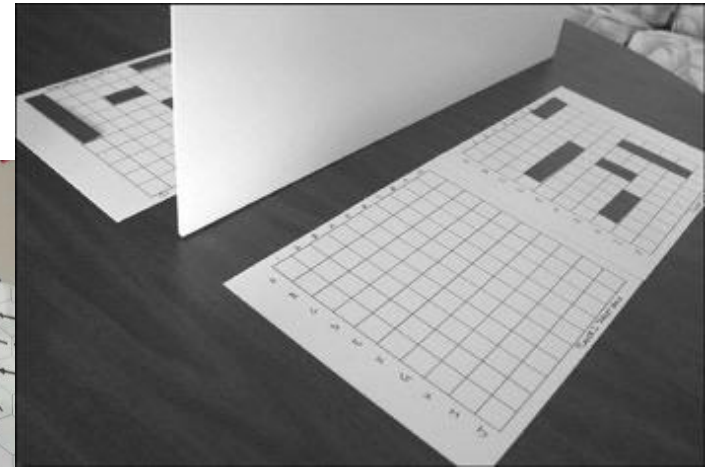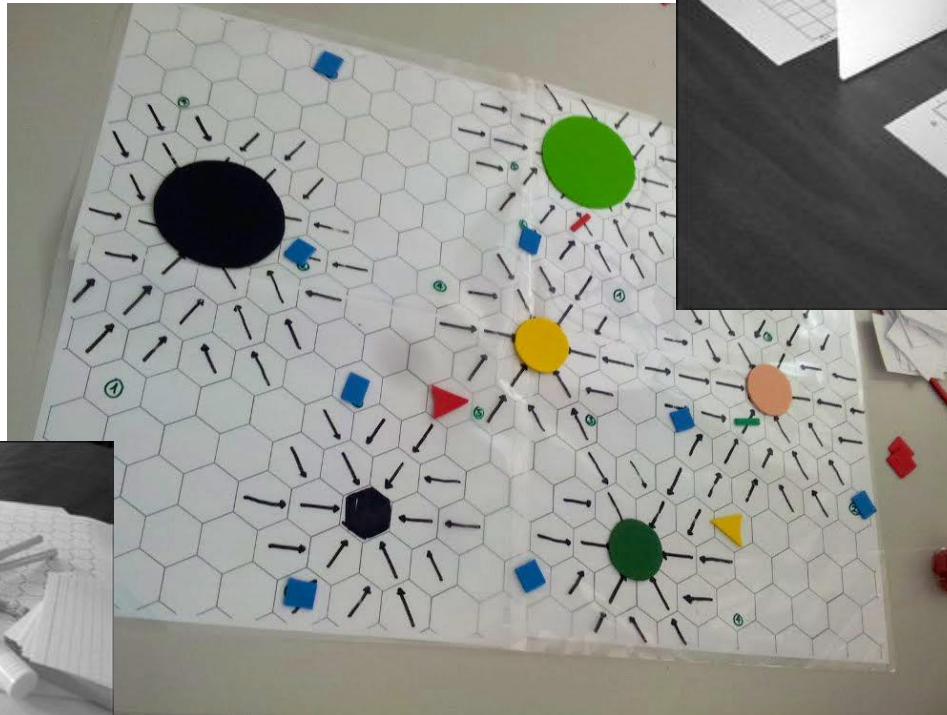
Draw Ball, by Brandon (Game Name:Frenzy)

Construct a path by drawing with the mouse to guide your circle through a

Milestones

1. Game idea pitch & formal proposal
2. **Prototype**
3. Interim demo
4. Alpha release
5. Playtesting
6. Final presentation!

Physical Prototype

- Finish design chapter
- Test core gameplay

Milestones

1. Game idea pitch
2. Prototype
3. **Interim demo**
4. **Alpha release**
5. Playtesting
6. Final presentation!

Interim & Alpha

- Interim report
  - Finished layer 2, well into layer 3
  - Functional minimum completed!
  - Report & demo
- Alpha release
  - Principle design long complete
  - Coding almost complete
  - "Freeze" version for play testing

Milestones

1. Game idea pitch
2. Prototype
3. Interim demo
4. Alpha release
5. **Playtesting**
6. **Final presentation!**

Final Stages

- Playtesting
  - Give your game to friends & relatives
  - Take notes & make interviews
  - Another chapter…
- Final presentation
  - Present your journey & results
  - Conclusion chapter, and video

Milestone Dates

- Kickoff lecture (October 20)
- Game idea pitch & proposal (November 10)
- Prototype (November 24)
- Interim demo (December 15)
- Alpha release (January 19)
- Playtesting (February 2)
- Final release (February 16)
- Final presentation tba

Milestone Dates

- Game idea pitch & formal proposal **3w**

- Prototype **2w**
  (start planning the implementation on the side!)

- Interim demo **3w**

- Alpha release **4w**

- Playtesting **2w**

- Final release … ca. **2w**

Project Structure Document

- Make sure to follow instructions
- Detailed deliverables
- Especially for milestones 1 & 2

Project Critiques

- Get feedback from "outsiders"
- Be constructive…
- Not used for grading!

Forming Groups

- If you already have a group - great…
- If not - stay behind, top priority
- Email us by end of the week!

Platform

- No restrictions on development platform!
- But - technical contribution has to be clear
- If unsure, talk to us…

Game Theme

- 9 out of 10 designers agree:

"Narrowing focus and imposing limits expands creativity immensely."

- Starting point for visual design

- Avoid stereotypes & cliches

- Justify design decisions against theme!

Slender Man