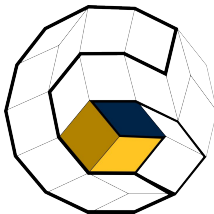


Praktische Aspekte der Informatik

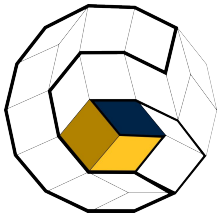
Colin Groth
Prof. Marcus Magnor

<https://graphics.tu-bs.de/teaching/ss23/padi/>



Introduction

What you need to know.

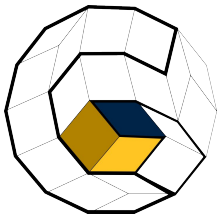


What?

Praktische Aspekte Der Informatik = PADI

You will learn...

- ... how to program in C++.
- ... how to work with libraries.
- ... how to debug your code.
- ... how to optimize your code.
- ... how to organize your code.
- ... much more!



Why?

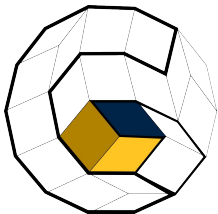
If you're a bachelor's student...

- ... you already know Java! (and maybe even C++)
- ... you will have to do the *SEP* and the *Teamprojekt*.
- ... you will have to write a *Bachelor's thesis*.

If you're a master's student...

- ... you may want to write a *Projektarbeit*.
- ... you will have to write a *Master's thesis*.

Eventually, all of you will work in the *real world!*



How?

First Part: Lectures

Brief talk (15-20 min).

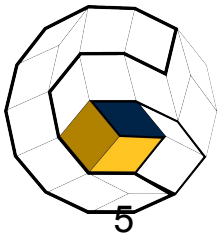
Learn necessary skills for the project (and life).

Second Part: Your Project

Work on and discuss your own project.

Regular updates on your progress.

Discussion of problems.



About your Project

Your software project...

- ... should be a 2D SFML game

- ... must be written in C++!

- ... should highlight the skills you have learned.

- ... must use at least one external library.

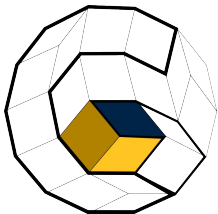
Your project will be graded on...

- ... function & quality.

- ... polish & presentation.

- ... whether you're a Ba/Ma student.

You alone are responsible for your project!



Different degree of difficulties according to the effort it takes

$$C < B < A < S$$

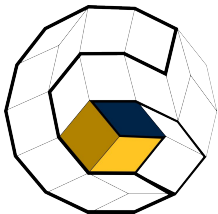
You can propose different contents to me

Compare difficulties in your proposal

We are a computer graphics institute

Focus on pretty results

List of possible content on the PADI website

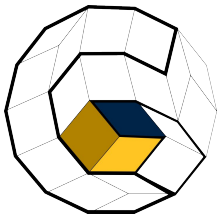


Be present!

Otherwise, you might miss important announcements.

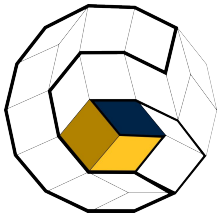
Most importantly, I cannot help you if you're not here.

Challenge: Set up your project for multiple platforms.



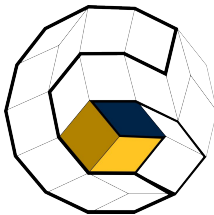
Project Organisation

How to get a good grade ...



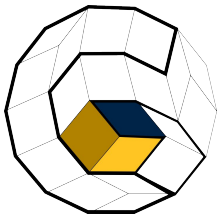
Half-done works will **NOT** get a good grade even if they include complex features!

So better have a small game that works and looks finished than a big and complex one that isn't finished or doesn't work properly.



Course outline

12.04.22	Beginning of PADI
26.04.22	Latest hand-in of the proposals (-> git)
21.06.22	Prototype presentation
09.07.22	Code freeze
12.+14.07.22	Kolloquium (+ teaser video)

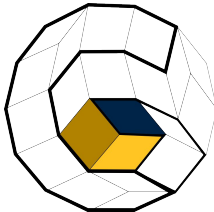


Proposals

Written into the Readme.md in your PADI git

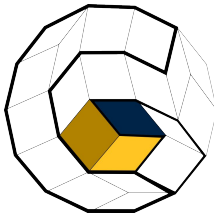
Should include:

- What is the game about?
- What is the **goal**?
- Working title
- Which components are included (-> padi website)



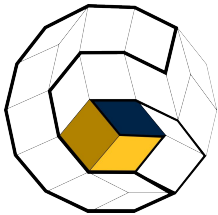
Main functionality of the game should be **done!**

- minimum viable product (MVP)
- main components should be implemented (and working)
- The game should already be playable (have a goal)
- Best case: Only polishing left until code freeze



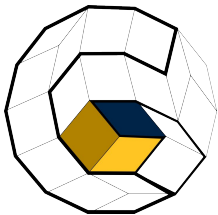
I will give you advice in the prototype presentation

- How to polish your game best
- Possibilities for extension



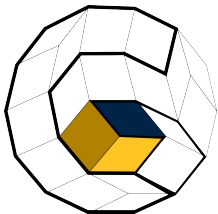
Teaser video

- Quick presentation of your work
- 20 - 40 sec. length
- Hand-in is the day before the first kolloquium (midnight) -> git

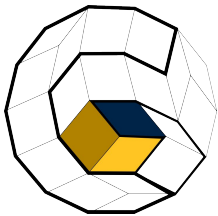
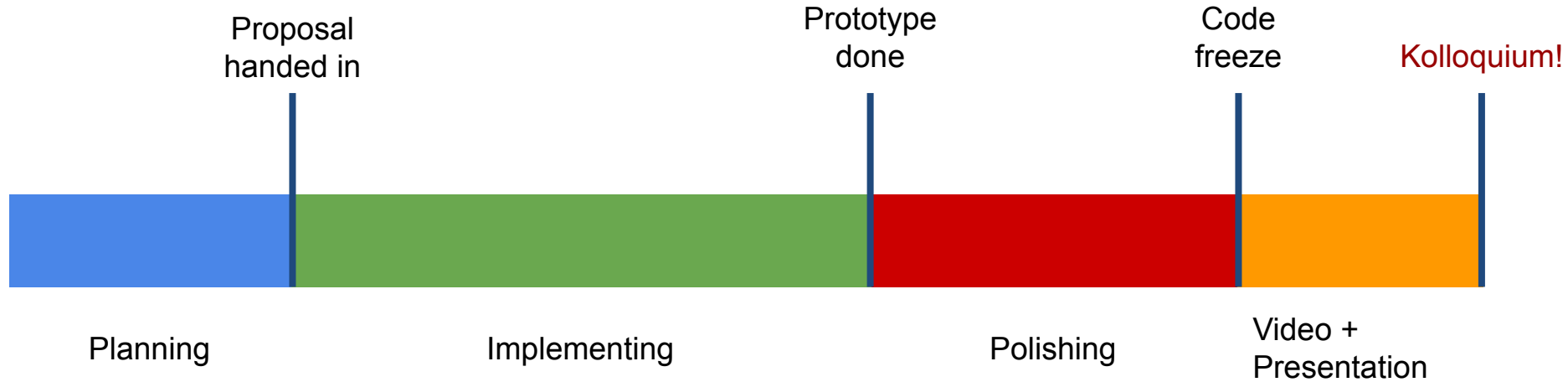


Do not underestimate the workload!

5 credits **150 hours!**

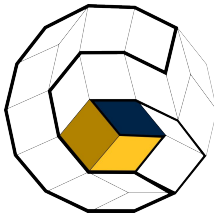


Timeline



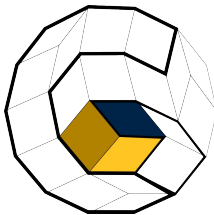
Organize your project (make a plan!)

1. What do you want to do?
2. Which single components have to be implemented?
3. What time is necessary for each component?
4. Does your plan fit to the time you have (+ buffer)? -> assign days



Implementation

- Stick with your plan
- Work your way from the most important to the least important component/feature
- DO NOT getting bogged down with one thing (if it's not important for the executability of the game)
- *Better*: Start implementing a minimal case of the feature and if you then still have time (based on your plan!) start to extend it



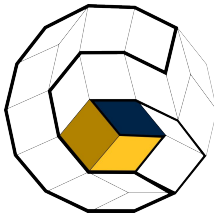
- **Graphics + Animations !!**

We are a graphics institute so make your game **look good**.

Only self-made or CC content.

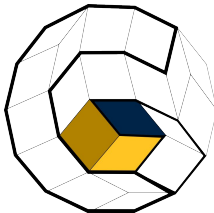
- Don't hesitate to ask questions if you are unsure about anything

To me in the *lecture* or at any time to the other students in *Discord*

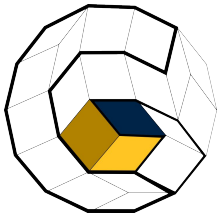


Polishing

- **Finish your work**
- DO NOT start implementing new core components -> they should be done by now!
- Use the advice I gave in the prototype presentation to make your game even better
- This is a good time to introduce more/better graphics and animations
- And: Test, test, test!
 - Find bugs and fix them.



And have fun :)



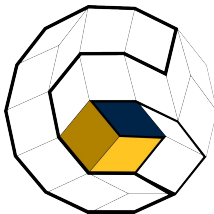
Organisation

GIT

- Everybody gets an own repository -> this is where you upload your code
- <https://git.cg.cs.tu-bs.de/>

Discord

- Use it to discuss with the other students or just to talk about stuff
- <https://discord.gg/nT2X3WMVnQ>



Have a nice week!

I hope you enjoyed it! Thanks for your interest!

