

# Computer Graphics Project

MTAT.03.328

Fall 2019



IT Akadeemia  
toetab Skype™



Raimond Tunnel

**IN THEORY, THEORY=PRACTICE.**



**BUT IN PRACTICE?**

[memegenerator.net](http://memegenerator.net)

# Contact Information

- Raimond Tunnel – [jee7@ut.ee](mailto:jee7@ut.ee)



# Organization

- 3 credits course
  - Contact hours  $10 \cdot 1.5h = 15h$  = 0.58 credits
  - Individual work (63h): = 2.42 credits
    - Project idea – 4h = 0.15 credits
    - Project plan and timeline – 12h = 0.46 credits
    - Milestones  $6 \cdot 7h = 42h$  = 1.62 credits
    - Presentation – 5h = 0.19 credits

# Organization

- Project idea and plan (~1-2 pages) – 13.09
- Milestones:
  - 27.09, 11.10, 25.10, 08.11, 22.11, 06.12
  - 6 in total
  - 2 week long
  - 7h of work each
- Final expo – 20.12 (or 13.12?)

# How to pass?

- Create a project **plan**.
- Set up and achieve your own **milestones**.

Failing those, gets you a strike.

Do not get more than 3 strikes.



- Present the final result in the **expo + final video**.

Missing that is an automatic failure.

Not attending fellow students' presentations gets you a strike.

# The Final Result

- Some kind of a demonstratable software.
  - Standalone build
- Good project page
  - Clear milestone descriptions and pictures
  - Link to the final build
  - Link to the repo
  - Short video of the final build!

# What to do?

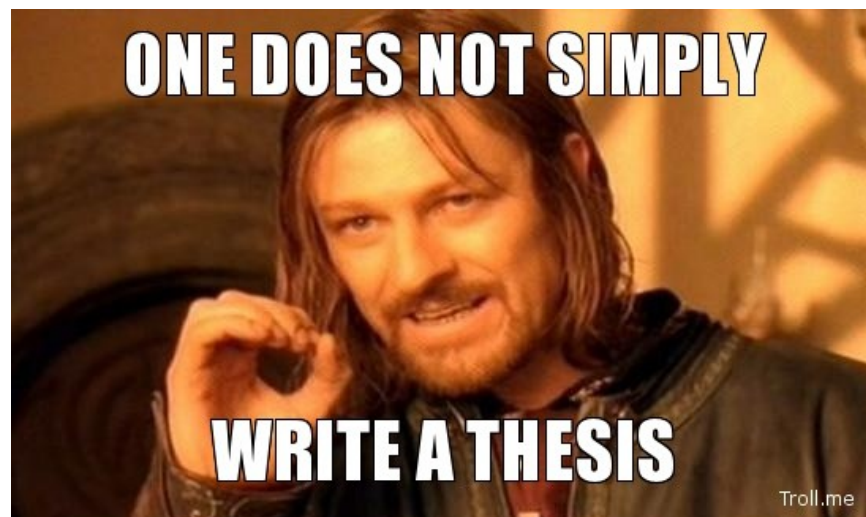
- Anything you want related to computer graphics.





# What to do?

- Practical work for a thesis
- Although you can not get credited twice for the same work...
- ... chances are that the practical work of your thesis is more than the credits given.



# What to do?

- Practical work for a thesis
- Although you can not get credited twice for the same work...
- ... chances are that the practical work of your thesis is more then the credits given.
- **Have a clear distinction between work done during the thesis and work done here.**
- **Make sure your practical work actually is worth the extra credits.**

# What to do?

- Work on some pet project you already have.
- You are working on it in secret anyway, right?



# What to do?

- Continue a project from another course.
- For example the CG course.

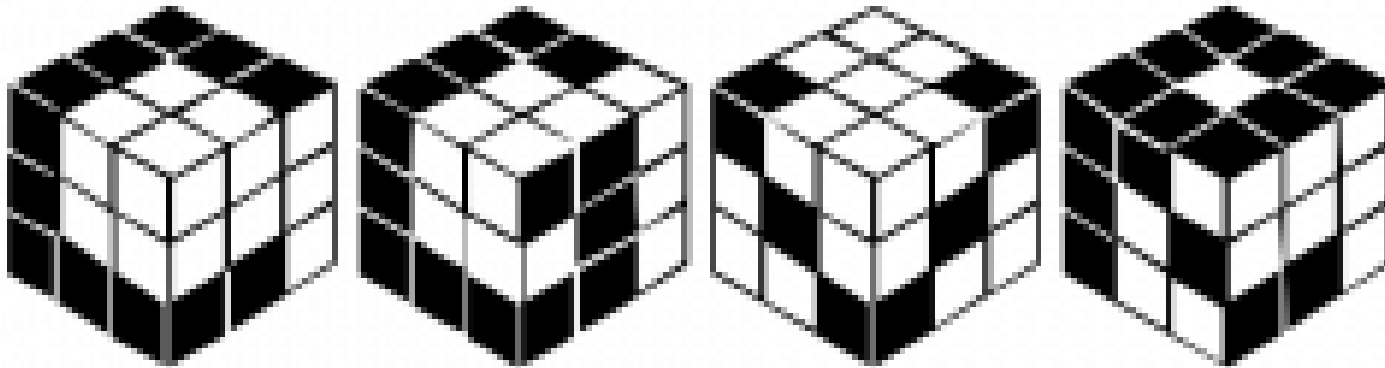


# What to do?

- Take on a new project and learn new things!



# The CGVR Lab Projects





# Paabel VR

[madis.vasser@ut.ee](mailto:madis.vasser@ut.ee)



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- Learn Unreal Engine 4



**UNREAL  
ENGINE**

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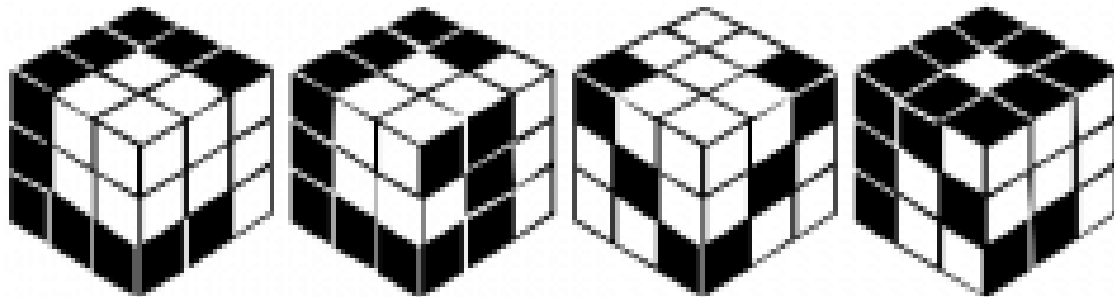
- Learn Unreal Engine 4
- Possibly get your first VR dev experience



# Paabel VR

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- Learn Unreal Engine 4
- Possibly get your first VR dev experience
- Get access to the CGVR Lab



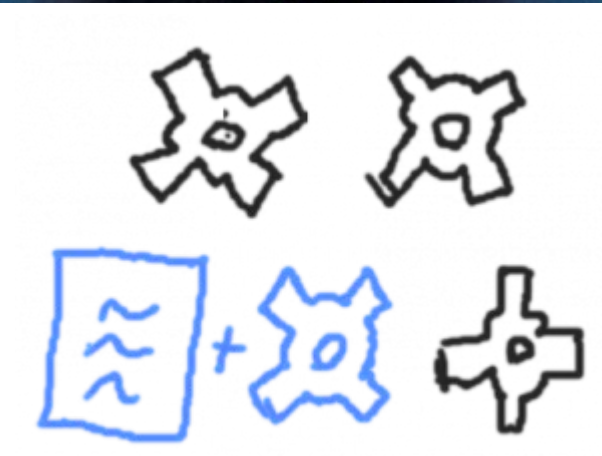
# Paabel VR

[madis.vasser@ut.ee](mailto:madis.vasser@ut.ee)

- Learn Unreal Engine 4
- Possibly get your first VR dev experience
- Get access to the CGVR Lab
- Be assisted by professionals (Madis & Ats)



# Glyptics Portrait Generator

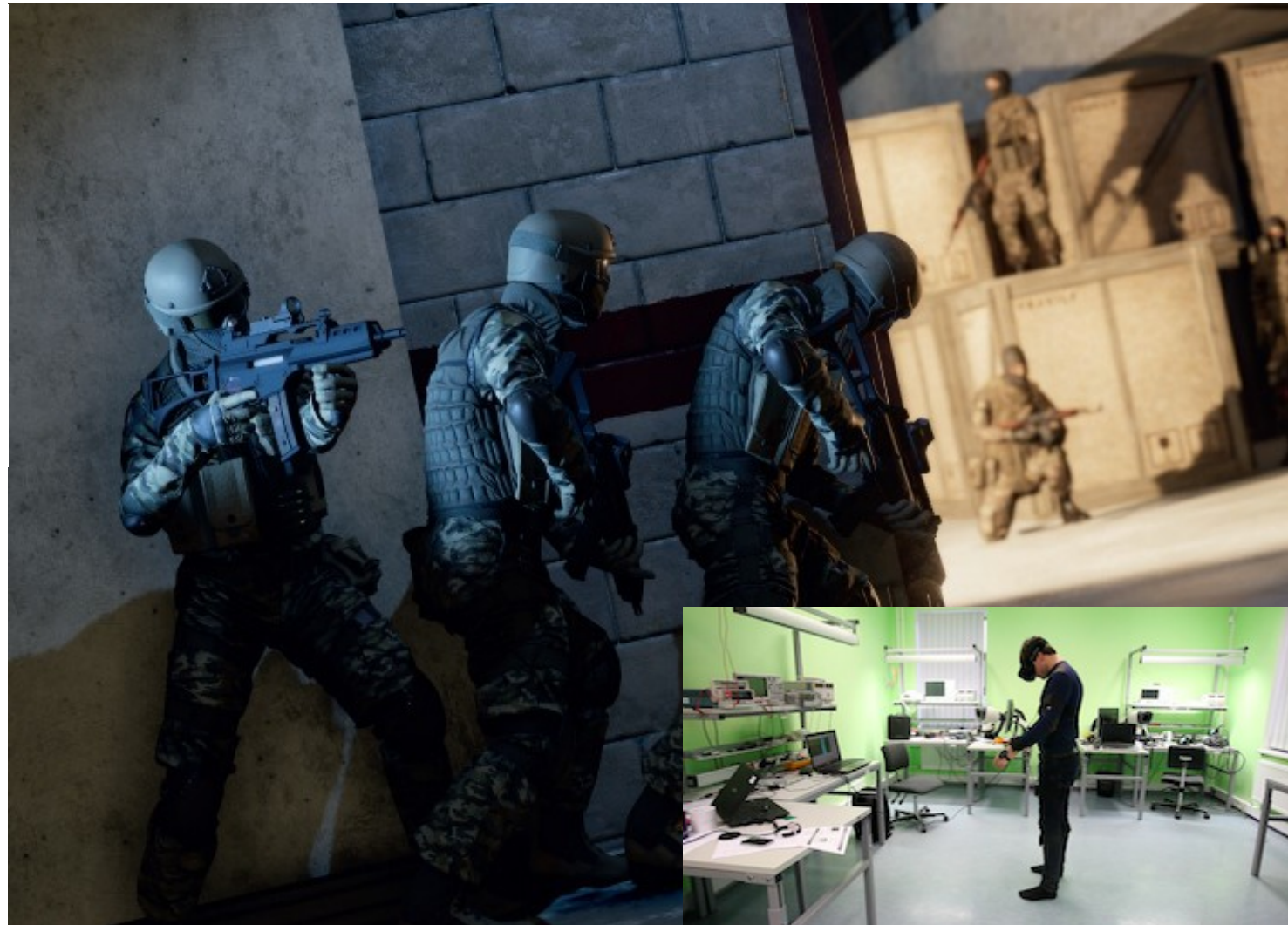
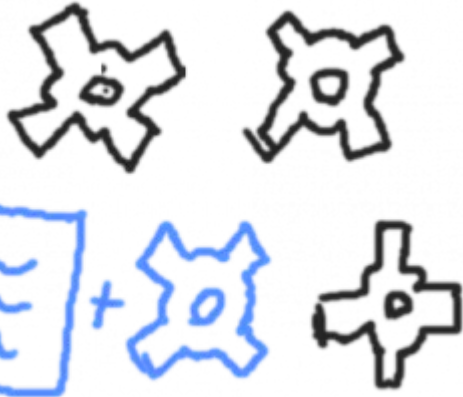




# SOFIT Level Editor



C R I F F I N

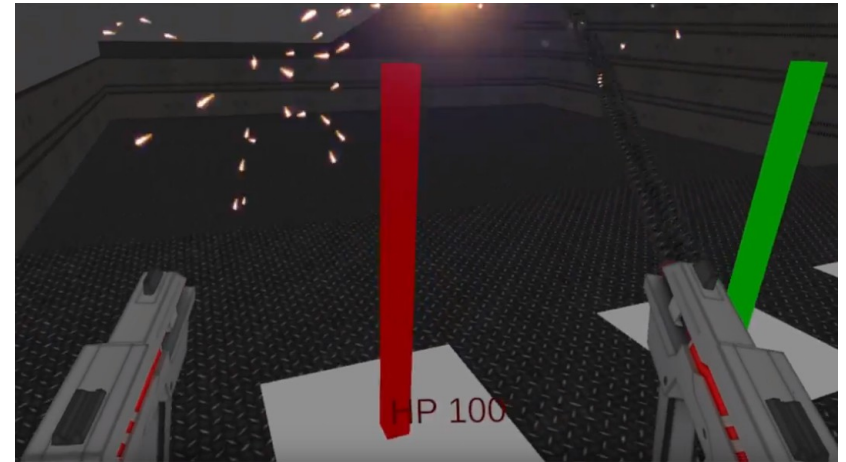


# Inspiration

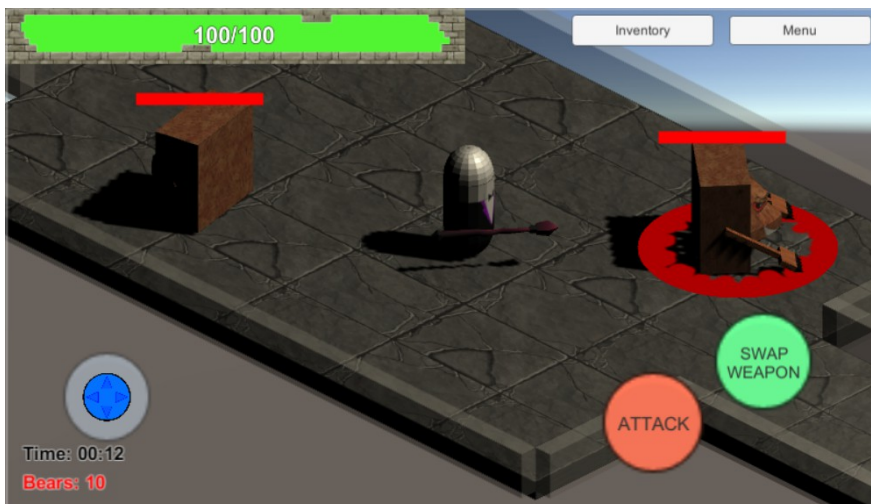
<https://cgvr.cs.ut.ee/wp/index.php/student-projects/>



Reality: B by Kalle Ever



Vrena by Jens-Stefan Mikson



Crazy Doom Dungeon by Diana Algma and Marko Täht



VR Stealth by Andreas Sepp

# Project Management

- Have a plan!
  - You can always change the plan.
  - **A plan is better than no plan!**
- Plan should consists of:
  - What do you want to have done?
  - General steps in what order you do things.
  - Required technologies (if applicaple)
- Plan sould not consist of:
  - Detailed descriptions of every milestone...





# Project Management

- Milestone

Milestone is a **promise to a *client*** of what will be done and working by the agreed time.

# Project Management

- Milestone
  - What are you going to do in the next 2 weeks?
    - What specific research / content / feature / fix?

## Goals

- Add a boss fight into the end of tutorial - (8h) ✓
  - Add boss movement pattern - (2h)✓
  - Add a way for the boss to interact with the player(take and give damage) - (2h) ✓
  - Design a fighting place - (1h) ✓
  - Add a health bar to the boss - (1h) ✓
  - Add a sequence taking place after the boss fight - (1h) ✓
- Add the shooting mechanic as an upgrade sold in the store - (1h) ✓

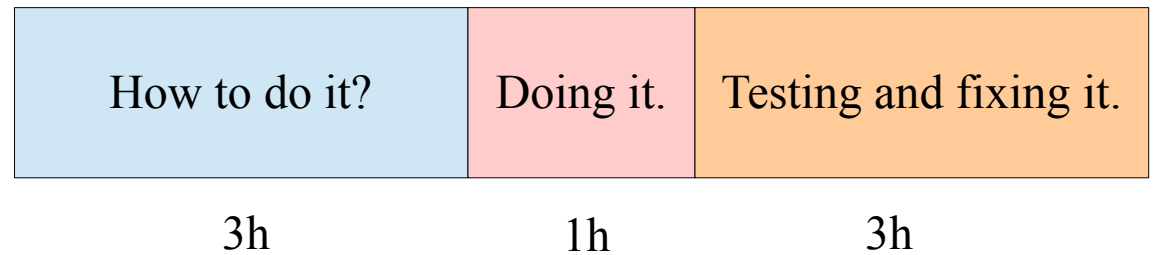
# Project Management

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- Include the estimated

- Research time
- Debugging time



# Project Management

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    - Debugging time
  - **Make sure you stick to the goals you proposed!**

Do not be this guy!



# Project Management

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  - What specific research / content / feature / fix?
- Include the estimated
  - Research time
  - Debugging time

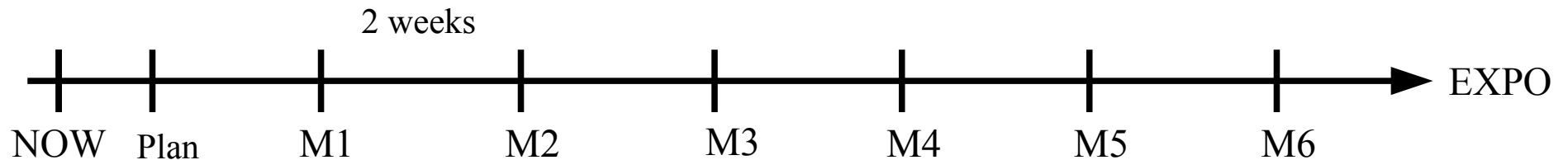
- **Make sure you stick to the goals you proposed!**
- Roughly 7h of work.

*You can find 7h in 2 weeks, right?*



# Project Management

- Motivation
  - So you want something done by the end?
  - **Do a little bit throughout the semester.**
  - Little bit means a new feature in 2 weeks.



# Project Management

- Motivation
  - So you want something done by the end?
  - Do a little bit throughout the semester.
  - Little bit means a new feature in 2 weeks.
  - Does not have to be a big feature ...
  - ... but **does have to work!**

*Promise to a client / boss!*



# Project Management

- Clarity

- State your milestone **promise very clearly!**
- Present your milestone **result very clearly!**
  - On your page and during the milestone defense.
- Few well-formulated bulletpoints is the minimum.

## Goals

VS

- Add a boss fight into the end of tutorial - (8h) ✓
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(followed by descriptions, pics and videos for more details)

How set in stone are the project's and movement's names at this point? To grow faster, the movement needs to make a good first impression, taking advantage of anyone's fleeting first exposure to it so a person will want to learn more and believe it could actually offer a possible real solution or they won't bother. But this name, "The Venus Project", rather than encouraging one to listen with an open mind could cause one's antennae to go up, waiting for the crazy, not realistic, "out of this world" part. I'm guessing the Venus in the Venus Project comes from Jacques being in Venus, Florida, but to any newbie "Venus" means something "out there" on other planets, and I think that makes an easily avoidable bad first impression. The "Venus Project" name doesn't sound serious to me, it sounds childish. Also the name of the movement, "Zeitgeist", is not only needlessly non-self-descriptive (we're wasting valuable exposure time with a mysterious name - losing the opportunity that on each occasion when the name of the organization is mentioned, that in itself could be sending an introduction to a new idea, like if the name were Technology Solves All Movement for a silly example), but it will also forever tie the movement to what some will call the conspiracy stuff (9/11, religion, etc.) because of your identically named movie Zeitgeist, and this will only distract and alienate from the RBE prize. I was in the 9/11 Truth Movement and saw up front & personal so many who had an instinctively negative visceral reaction to any suggestion that 9/11 was an inside job, that they would hear no more. Also, why alienate those with strong beliefs in their religion? Is it really necessary for us to first convince everyone they've been lied to about everything their whole life before introducing a sane alternative to a profit based society when there are no good jobs anymore even in the first world? People are desperate for an alternative and these other things I think are unhelpful distractions to a beginner's introduction to the possibility of another way. Activists for a new system won't get so many bites at the mainstream media exposure apple that we can afford to squander any by tying a hand behind our back with unimportant inconsequential stuff like names and logos. Perhaps if we eliminate these easily changed hurdles, the movement will grow faster and have less back and debunking charges to respond to. Trust me, I know that responding to 9/11 debunking charges is a full time job in itself, it's a rabbit hole. Unless we get away from the Zeitgeist movie name, we will be linked to the what people call the 'conspiracy' stuff. Of course, this suggestion should not in anyway distract from your contribution, Peter. You actually created the movement, right? and probably lots of us learned about it BECAUSE of your movie's addressing of the 'conspiracy' stuff. This is truly only a request for a superficial and easily made change to de-link the V.P. and a R.B.E. with the unrelated items others deem conspiracy and/or non-positive theories. I say easily made because people's flyers, old sleeves, logos, stuff that is printed when needed, can be changed digitally on computers through existing technology generally available to those who print the stuff (just retyping, or simple editing, right?) and there are no stockpiles of stuff with the current names on it that would be wasted I assume? Thanks in advance for your consideration, and please also address whom you think such a decision as to the movement's name should be made.





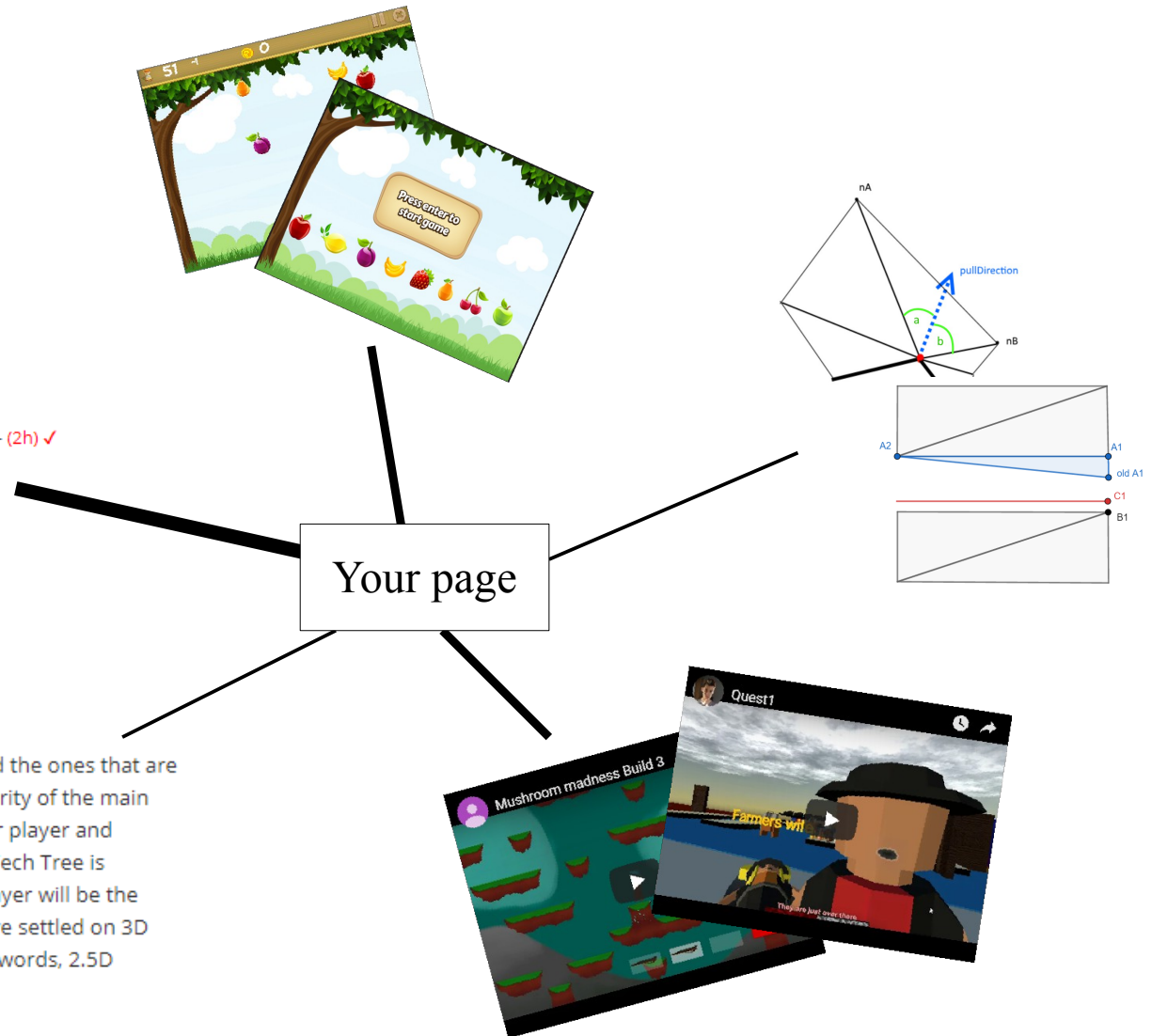
# Project Management

## • Balance

### Goals

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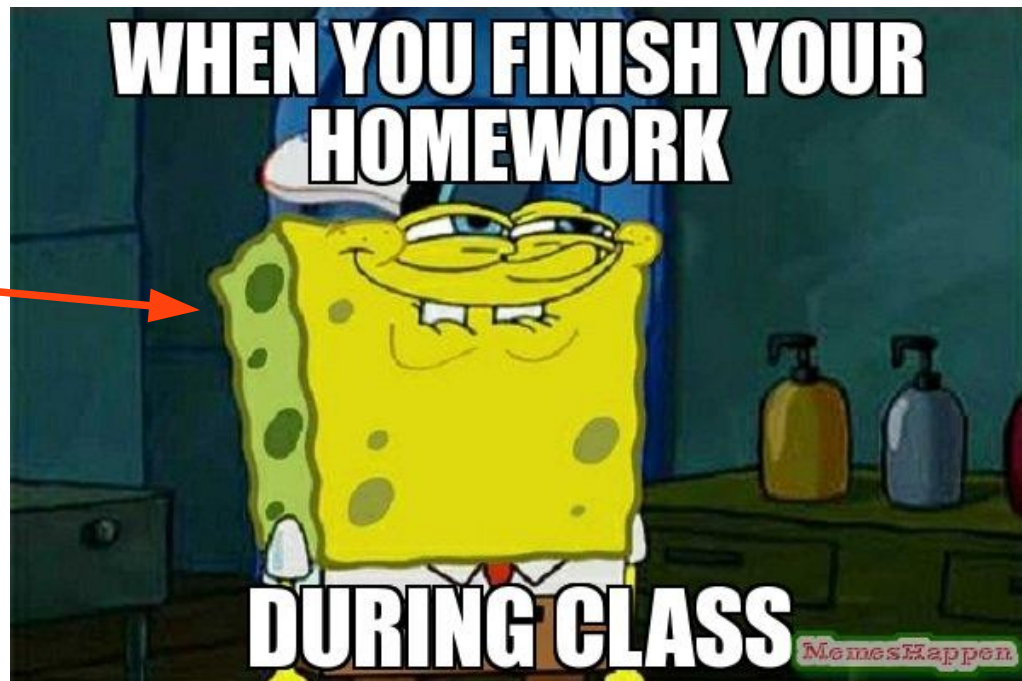
We still did not filter out all the possible features, but selected the ones that are a priority. On the software side, we are progressing and majority of the main game-loop is ready. We started creating first set of actions for player and thinking about implementing those for AI as well. Designing Tech Tree is moved to next milestone. The first interaction mockup for player will be the "hangar". It will have low-poly with pixel textures. However, we settled on 3D world with 2D objects in it, similar to *Fallout Shelter*. In other words, 2.5D game.



# Project Management

- Project Page
  - Do not start updating your page in the session!
  - Update it the day before.

Do not be this guy!



# Project Management

- Project Page

- Do not start updating your page in the session!
- Update it the day before.
- **Make it nice every time** (not later):

- Clear
- Concise
- Understandable
- Easy to grasp
- Quick to grasp
- Illustrated with proper materials
- Has no grammar, spelling or formatting issues.

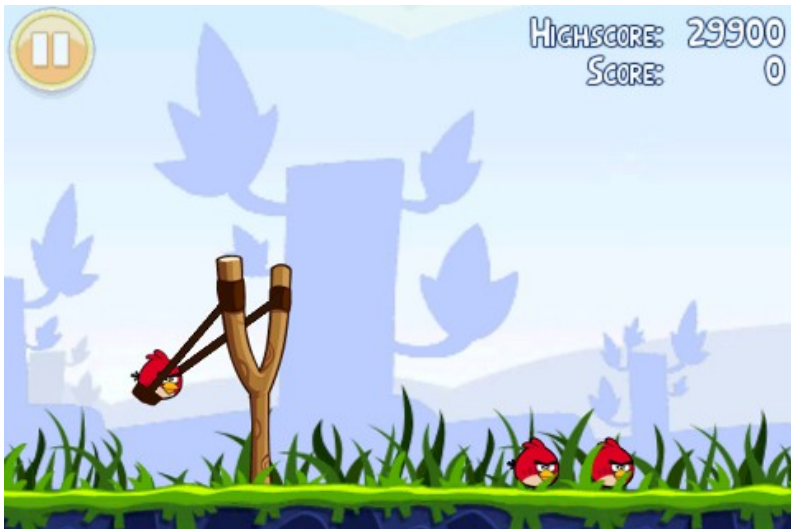


vs



# Project Management

- Result
  - Make it good and working, no matter how small!
  - Instead of taking a too big goal to never reach it.
  - **Engage people in the final expo.**

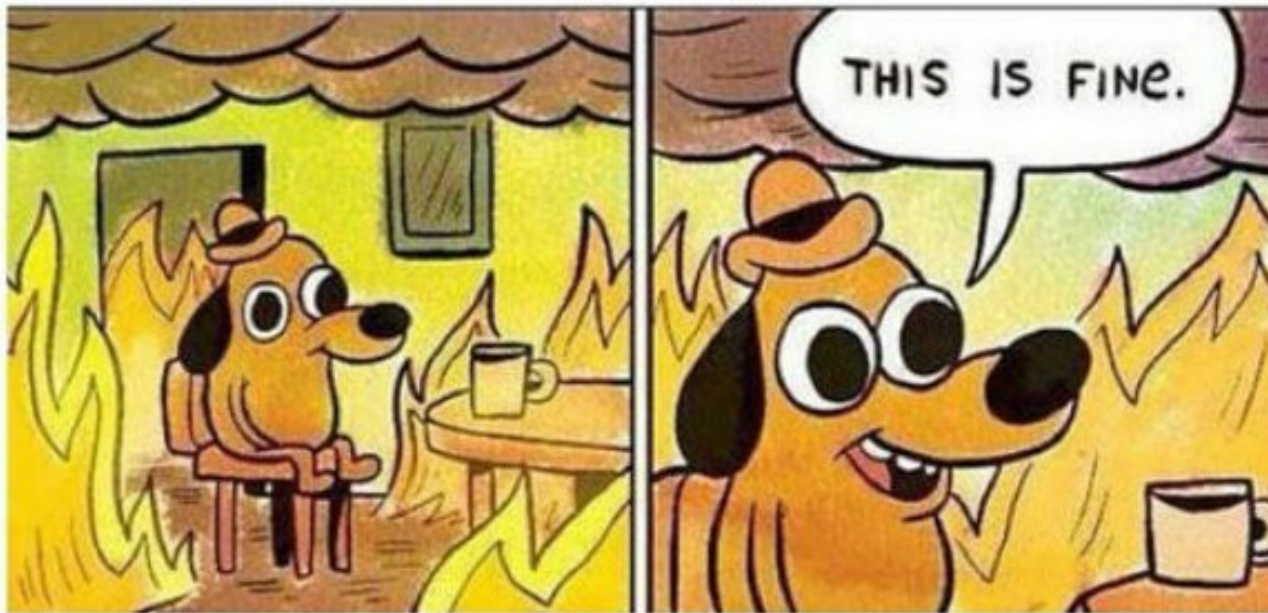


VS



# Project Management

- When in trouble: **ASK FOR HELP!**
  - CGVR lab people (Ats, Madis and Raimond)
  - Fellow students



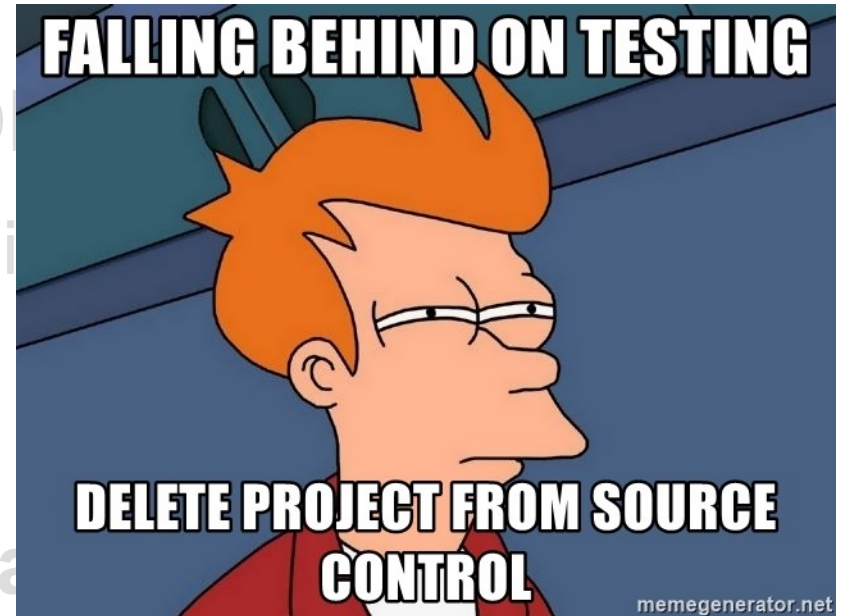
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- **When in trouble: ASK FOR HELP!**
  - CGVR lab people (Ais, Madis and Raimond)
  - Fellow students
- **Keep your milestones small, but specific!**



# Project Management

- When in trouble: ASK FOR HELP
  - CGVR lab people (Aths, Madi)
  - Fellow students
- Keep your milestones small
- Do not restart or delete your project!



# Project Management

- **When in trouble: ASK FOR HELP!**
  - CGVR lab people (Ats, Madis and Raimond)
  - Fellow students
- **Keep your milestones small, but specific!**
- **Do not restart or delete your project!**
- **Be positive!**
  - **Look for and present positive results!**
  - Even if things look bleak.



# Project Management

- Reflection
  - In the end you have implemented ~6 features
  - **Compare it with your original project plan**
    - Does not have to match
  - Think about how to continue...



# Learning Goals

- Technical skills specific to your project
- Soft skills:
  - Planning.
  - Time estimation (very important).
  - Communication (milestone defenses)
  - Design (project page)
  - Presentation (expo)

# Computer Science MSc Practical Module

Goal:

*The goal of the module is to prepare the student for entering the labor market after graduation.*

Learning outcomes:

*After completing the module the student has acquired the basic practical skills to start work as a specialist, an entrepreneur or as part of the teaching staff.*

Questions?



# Your Project?

- What do you call it?
- What is the main idea?
- Want a joint project with another student?

