

VG100

Introduction to Engineering

Project 1

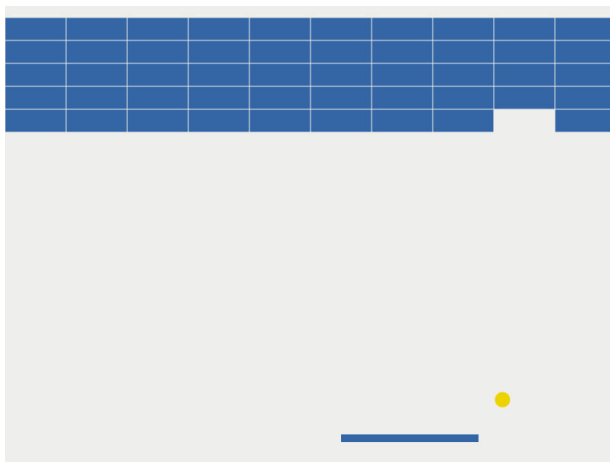
Michele & Manuel — UM-JI (Summer 2020)

- Include simple comments in the code
- Split the code over several functions
- Extensively test your code and improve it
- Start early and respect the milestones
- Update the `README` file for each milestone
- Update the `ChangeLog` file between two milestones
- Archive the files (`*.{zip|tar}`) and upload on Canvas

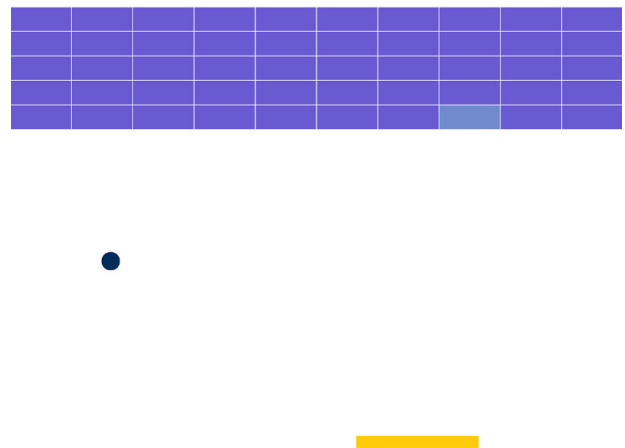
1 Project setup

In VG100 we want to learn more about software engineering, improve the coding quality, and learn how to develop large projects in teams. For this first project we want to focus on *coding quality*. It is therefore very important to think much before jumping into the coding part.

Over the next few weeks you will be working on developing a *breakout game* similar to the ones implemented by our TAs (Figure 1), or this Atari 2600 version.



(a) Breakout game implemented using Elm Playground



(b) Breakout game implemented without Elm Playground

Figure 1: Screenshots of breakout games implemented by the TAs

2 Tasks

As you start developing your project do not only think of the current stage, but try to gain a global view on what should be achieved *on the long run*. However strictly follow the recommended progress and **do not directly jump** to milestone 3.

For each milestone you must submit your current code including all the usual relevant files attached as well as with a short `ChangeLog` file that describes the progress done on the project¹. Expected implementation for each milestone:

Milestone 0: watch the conference presentation *The life of a file*, by Elm's inventor Evan Czaplicki;

Milestone 1: model and draw the bricks as well as the paddle; This can be completed with or without Elm Playground.

¹For more information on how to write a `ChangeLog`, refer to <https://keepachangelog.com/en/1.0.0/>.

Milestone 2: complete the full basic game implementation, i.e. a paddle which can be moved with the keyboard, a bouncing ball which breaks bricks when it touches them; This must be implemented without Elm Playground;

Milestone 3: adding new unique features making your game the most fun one over the whole section!

3 FAQ

This section lists all the Frequently Asked Questions (FAQ).

1. I have no idea of what I am supposed to do.

Use a monolingual dictionary to ensure you fully understand all the words appearing in the question. Then discuss with your group to know how they understand it. If you discuss with students not in your group, **only discuss the questions not their solution**. If several opinions appear to be valid determine which ones is the best and most reasonable. Document your choices in the README file. Alternatively contact the teaching team through project 1 discussion on Piazza. To ensure everybody benefits from the question and its answer **no question will be answered if not asked on the project discussion**;

2. Can I skip the milestones and directly jump to milestone 3? I am confident I can get a higher grade than others in this way.

No! You will only waste your time. Strictly follow our directions. If you have a better idea on how to tackle the project, contact the teaching team to discuss with us. If your work plan is reasonable we might grant you the permission to follow your own plan. No help and support will be provided to students or groups not following the official milestone progress without our prior authorisation.

3. I cannot meet a milestone, how bad is it?

Deductions will be applied if functions from previous milestones are not fully working in the final submission. Besides, **no answer will be provided to questions on a previous milestone**.

4. I have question that is not answered here?

Please post your question on Piazza, we will be glad to answer it and include it in this FAQ if we feel it is relevant and can help others.

5. How do I choose my twist for milestone 3?

More information and guidance will be provided as we reach milestone 3. Wait for our formal approval before going ahead with milestone 3.