Project 3 kickoff

The project team

Hogeschool Rotterdam
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Introduction

Introduction

Overview

- Looking back
- A short overview of the project
- Survival tips

Looking back

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The worst is over.

You are on your way to becoming true professionals, and we could not be happier about it.

Looking back

What have you really learned?

- You can now program[a]
- You can work in teams to compose your skills

[a] for a small enough value of *programming*

Looking back

What have you really learned?

You can build simple software products that work locally and in isolation (standalone applications).

Looking back

What next?

Let's add a stepping stone to what you are learning.

A short overview of the project

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We **make it alive**.

We **draw it**.

A short overview of the project

In this project, you will...

- ...build an application made up of multiple, separate components;
- ...gather, process, store, and visualise data on a GUI.

A short overview of the project

You will find data about the city of Rotterdam

A short overview of the project

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The choice of data will be based on interest and the possiblity to generate useful information from it.

A short overview of the project

The data will be studied and analysed into an ERD and a physical model

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The data will then be automatically processed and saved on a database[a]

[a] reflecting the documents above. Duh.

A short overview of the project

An application will connect to the database

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The connection may be anything you like: manual (hardcore), or mediated by an object-relational-mapping (ORM)[a]

[a] Entity framework + LINQ, hibernate, etc.

A short overview of the project

A series of queries will get data from the database into the application

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You will then process the data, and visualise the results

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Visualisation[a] makes it possible to understand and make sense of the data

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Visualisation[a] makes it possible to understand and make sense of the data

[a] If you put everything on a map, then it gets pretty, understandable, and yo get lots of points.

Make sure to include enough information to make it clear how the visualisation is to be understood

Survival tips

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Issues

Working together on a project is not always so simple!

Survival tips

Issues

- Setting up structures
- Writing reasonable code
- Collaborating via source control

Survival tips

Code is like violence: if it does not work, write some more?

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Actually, this is not true!

Survival tips

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This translates to *think before you act*

Survival tips

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UML-like structures help: **not as a formal tool, but as a thinking aid**

It does not matter if your diagrams are perfect according to the standard: what matters is that they allow you to explore the domain of possible solutions.

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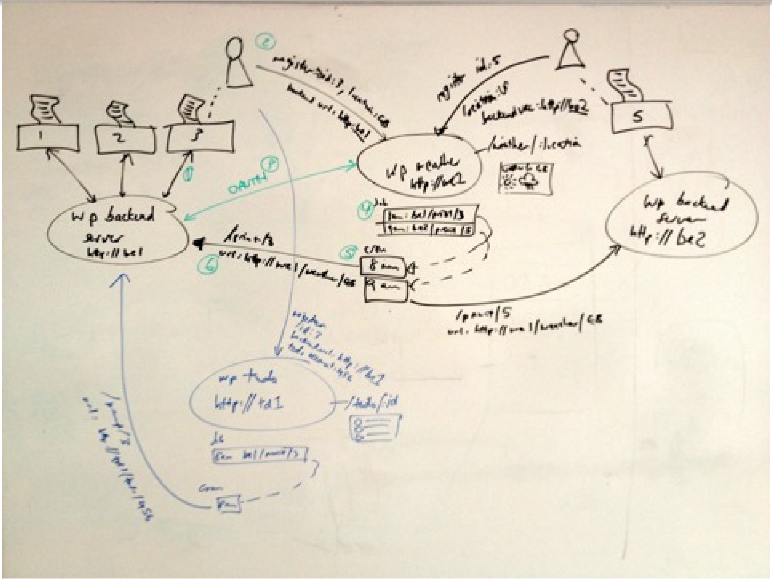

Survival tips

Biggest goal: identify important blocks of functionality, and isolate them

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Divide-and-conquer approach

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Divide-and-conquer approach

The smallest blocks of functionality are classes

Survival tips

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Worst of all: collaboration on such a monolithic entity becomes then impossible

You are required to write short classes that only cover one scenario

Survival tips

Small? Classes? Lol!

Complex functionality comes from composition and polymorphism

Survival tips

Life is too short to learn to use the command line

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Use the GUI's: *GitHub desktop*, or the integration of GitHub in IDE's like Visual Studio and IntelliJ

Survival tips

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Small files, and logical and short classes, already prevent a lot of conflicts

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Small files, and logical and short classes, already prevent a lot of conflicts

Ensure that each file has exactly **one and only one owner**

Survival tips

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Survival tips

- Commit often (once a day)
- Waiting for days is a sure recipe for disaster
- Solve any commit conflicts right away, before going home

Conclusion

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Closing up

- You have achieved a lot in the last months
- It is now time to impress us: build a modern data-heavy graphical application
- Be smart about your work, control complexity, and work together with discipline

This is it!

The best of luck, and thanks for the attention!