Version control and GitHub

Rasmus Bækgaard

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Table of contents
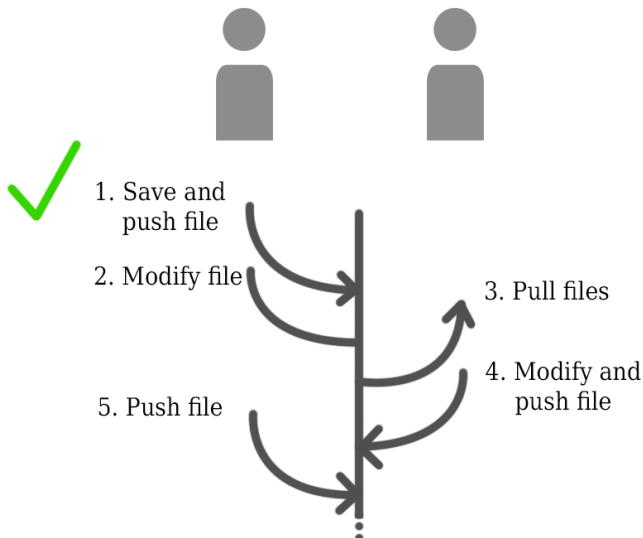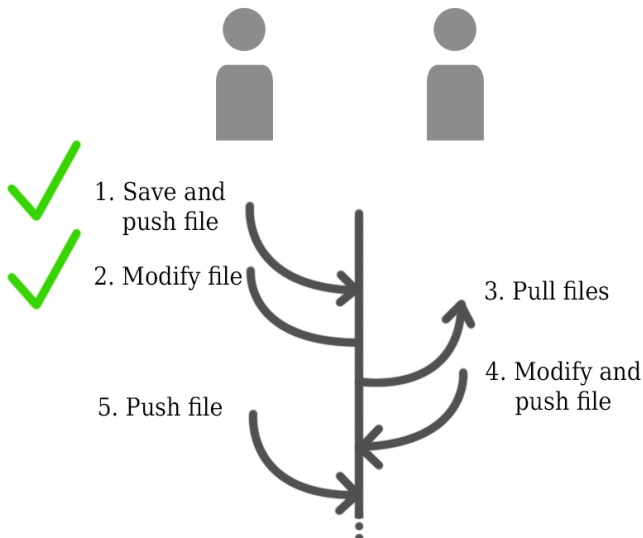
What is GitHub and what can it do?

- GitHub is a service which keeps your files, makes them safe and accessable from you and your collaborater computer.
- This service can be used for the semester projects, bachelor project, course projects and projects you do in your free time.
- GitHub uses Linus Torvals's program, Git, which Linus uses for the Linux kernel and Google uses for Android.
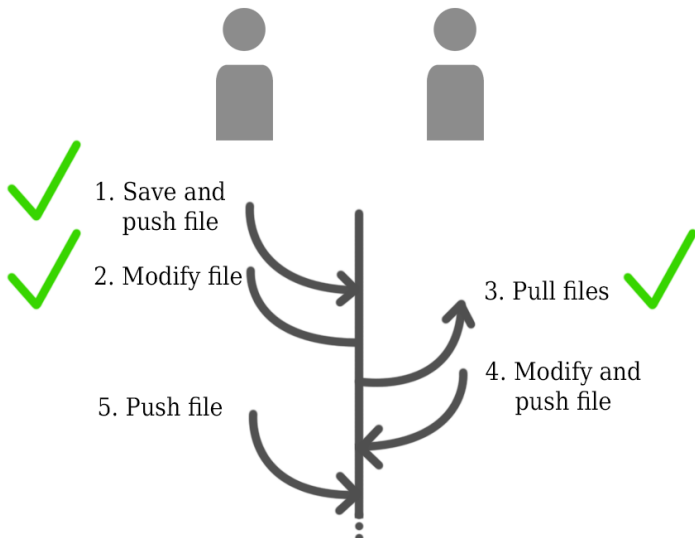- Github had in april 2014 +3.4 million users – the biggest code host in the world.

Why do you want to use it?

1. Save and push file
2. Modify file
3. Pull files
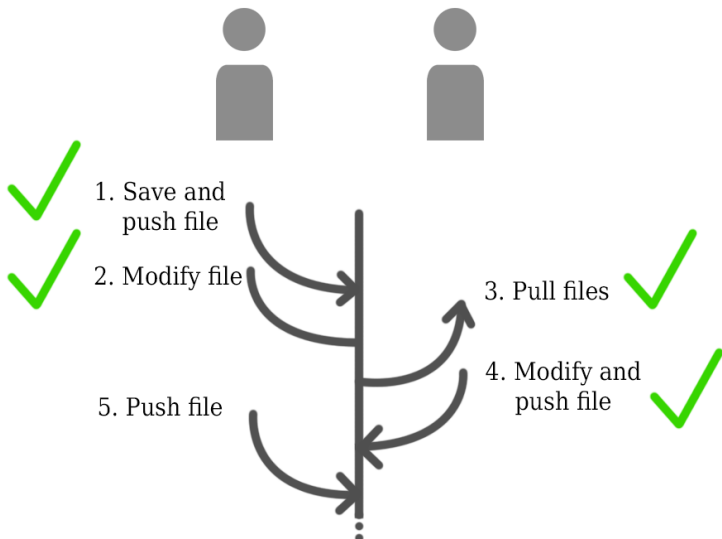4. Modify and push file
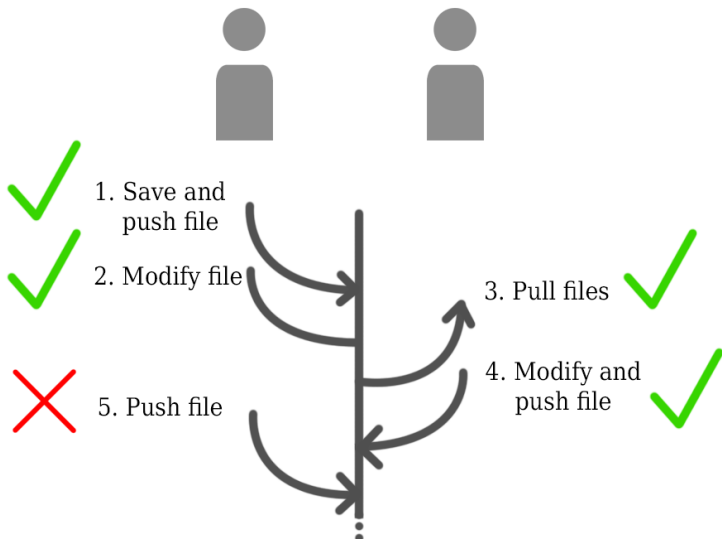5. Push file

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Merge

When conflicts occur they must be solved one way or another. The most common way is to merge files.

This is taking what was in the original file, the modified, compare them and bring the correct output.

How to get started

To get setup and running we will need the following:

- ▶ Create a GitHub account.
- ▶ Download and install SmartGit.
- ▶ Setup SmartGit with GitHub.
- ▶ Create a small collaboral example.

Create a GitHub account

- Go to `github.com`
- Create a user.

  Remember – this name will be visible.
- Select a free plan.

Download and install SmartGit

- Download it from
  http://www.syntevo.com/smartgit/download
- Install SmartGit with the standard settings.

Setup SmartGit with GitHub.

- Open the program.
- Select "Non-commercial use only".

  Confirm this.
- Select the second option for SSH with Git.
  - Enter your GitHub account name.
  - Click the "Generate API Token" key.
  - Feel free whether to use a master password or not.
    It's security and will promt you after each reboot.
- Finish the setup.

Setup SmartGit with GitHub.

- Close the popup menu.
- Select from the menu bar `Tools → Open Git-Shell`.
- Follow the link from step 1 with the Git-shell as terminal.
  DO NOT DOWNLOAD THE NATIVE APP.

`https://help.github.com/articles/generating-ssh-keys`

Live demo

Time for showing how this work. We will go through the following:

- ▶ Create a repository (project).
- ▶ Add collaborators to the repository.
- ▶ Add files to the repository, modify and push them (upload).
- ▶ Create a merge conflict and solve it properly.
- ▶ Create a list of files to ignore.