Data processing and handling techniques for the purposes of efficient biodiversity data management and reporting

Exercise 1 - Getting to know Git and Github

Objective - Explore and understand Git and Github workflow

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Task 1: Install and get familiar with Git.
In this task you will become familiar with Git and setup a Git project. You can get a Git project using two main approaches:

- first, takes an existing project or directory and imports it into Git;
- second, clones an existing Git repository from another server.

For this task, workshop repository is already created on GitHub so you will use second approach, that is to clone existing repository from a GitHub server.
But, before cloning repository we need to install Git software. Here we also have two approaches:

- for users that are already familiar with Git, recommended approach would be to install command line version which is available from http://git-scm.com/.
- for beginners, the second approach is recommended, that is to install Git as a part of GitHub desktop software https://desktop.github.com which is a GUI version of Git software.

Steps to do:
1. Go to https://desktop.github.com and install GitHub desktop for your operating system.
2. Start GitHub desktop and create your account on https://github.com if you already don't have it.
3. Enter login credentials to connect Github desktop with your GitHub account.
4. Configure Git settings.
5. Clone the workshop repository from https://github.com/grgurev/bimr-gis-workshop.git.

Task 2: Get familiar with GitHub.
Now when you finished installing all of the required software, go to the repository web address at https://github.com/grgurev/bimr-gis-workshop and check out our workshop repo. All GitHub repositories live at github.com/[[username]]/[[repo-name]].

There is a lot of information on this page; some of it you'll find useful, and some of it you can safely ignore as a non-programmer.

Steps to do:
1. Find out the full name of the repo.
2. Find out how many commits have been made.
3. Find out how many people have contributed to the project.
4. Find out what happens if you click on a file in a file list?
5. Find out if any issues have been issued for the repo?

Task 3: Synchronize the workshop repo with new changes.
Now we will try to fetch and merge (pull) changes from the server. While you were exploring GitHub web pages some minor changes are made to files in the repo. You need to fetch and merge the changes from the server and examine what was changed.

Steps to do:
1. Fetch the changes from the server by clicking "Fetch origin"
2. Click on the changed file(s) and examine the changes made.
3. Try to find out who made the changes.

Optional Task: Make changes to some files and push your changes to the server.
For now you only fetched the changes from the server and merged them to your local repository. The second, equally important task in any distributed work or project is to be able to push your changes to the server for other colaborators to be visible.
To do that you need to push your changes to the GitHub server. We are first going to commit the chnages to the local repository and describe it what we did and in second step we are going to push those changes to the server/remote repository.

Steps to do:
1. Commit the changes to the local repository.
2. Push the changes to the remote repository.
3. View your changes on GitHub web pages.