# 10MPRO Unit 3: Organisation and Resources
## Git and GitHub Task

In this task you will examine an existing GitHub repository, answering questions about it and making changes of your own. By following the step-by-step instructions you will learn how to Fork, Clone, Commit, Push, and interpret a Git repository.

| Step | Instructions | Marks |
|---|---|---|
| 1. | First, make your own personal copy of the repository on GitHub.<br>• Visit: https://github.com/NorthcoteHS/gitTask<br>• Click **"Fork"** in the top-right corner. You may need to log in first. | 1 |
| 2. | Next, create an empty folder to clone your fork into.<br>• In Brackets, use the Project drop-down to "Open Folder…"<br>• Create a new folder within 10MPRO called **gitTask** and click "Select Folder" | 1 |
| 3. | Now, clone your new personal copy to your local computer.<br>• On your fork (in GitHub), click the green **"Clone or download"** button.<br>• Click the 📋 **"Copy to clipboard"** button beside the URL.<br>• In **Brackets**, open the Git extension (the 🔧 Git button on the right)<br>• In the "Git tray" at the bottom, click the **"Clone"** button<br>• Enter the URL you just copied (**Ctrl-V** or Cmd-V to paste)<br>• Hit **OK** (no need for Username/Password) | 1 |
| 4. | Great! Now you're set up with the repo.<br><br>To answer the next few questions, you'll need to get familiar with the buttons on the Git Tray. Take a look at them now.<br><br><br><br>1. Select all changed files     2. Commit selected changes<br>3. Show Git history     4. Show file history<br>5. Refresh Git panel     6. More actions ("Hamburger")<br>7. Remote picker     8. Fetch<br>9. Pull     10. Push<br>11. Git Bash     12. Git Settings | |

| 5. | Press the ⊕ **Git History** button for a full list of commits.<br><br>    a.   What is the message on the most recent commit?<br><br><br><br>    b.   What is the message on the very first commit?<br><br><br><br>    c.   What date was the first commit made? You can find out by hovering over the date ("3 months ago") – a tooltip will pop up with the specific date in MM/DD/YYYY format.<br><br><br><br>    d.   Who was the author on both of these commits? | 4 |
| :---: | :--- | :---: |
| 6. | You can get more information about any single commit by clicking on it in the list. Find the commit with message **"Add draft of UI"** and click on it.<br><br>    a.   How many files were changed in this commit?<br><br><br><br>    b.   How many lines of text were added to the first file (sources.txt)? These are indicated by green text with + at the start.<br><br><br><br>    c.   Why don't the other files in this commit show text being added or removed? | 3 |
| 7. | Each commit has a unique identifier, called a "hash". The first 7 characters of each hash are shown on the right edge of the commit list. Find the commit **f5b85bb**.<br><br>    a.   Who is the author of this commit?<br><br><br><br>    b.   What is the author's email address?<br><br><br><br>    c.   What date was the commit made? | 4 |

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| | d. What are the last 5 digits of the **full hash**? This can be found by clicking the "…" next to the hash in the commit summary. | |
| 8. | Another useful tool is the 📄 **File History**. Select **createAccount.py** in the file tree on the left, then click on the File History button.<br><br>a. How many commits were made affecting this file?<br><br>b. Who improved the "yes/no" logic in the file? | 2 |
| 9. | Use the commit history and/or file history to answer these questions:<br><br>a. Who was responsible for adding the photo assets?<br><br>b. When was Denny's first commit?<br><br>c. What *new* app names were added to the list of name ideas on Feb. 5? | 3 |
| 10. | Next we're going to make some changes to the repo. Before doing anything, we need to set up our username and password. Click the ☰ hamburger and:<br><br>a. Select "Change git username" and enter your full first and last name (with capital letters and a space).<br><br>b. Select "Change git email" and enter the email address you use for GitHub. | 2 |
| 11. | Look again at the most recent commit.<br><br>a. What did it change?<br><br>b. This commit was a mistake, and we want to undo it. Click the ☰ hamburger and choose "Undo last local (not pushed) commit". What happens in the Git tray? | 5 |

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| | c. We want to completely get rid of those changes, so click ☰ again and select "Discard all changes since last commit". Now what does the Git tray say? <br><br><br> d. This commit still exists on our GitHub repository, which is why the ⬆ Pull icon has a number beside it now. We want to get rid of it entirely on GitHub. **Note:** this next action is very dangerous, and should only be done as a last resort and if everyone who uses the repository knows it is happening. <br><br> Open the ⬛ Git Bash and type:  `git push -f origin master` (the -f means "force") <br><br> When done, close the Git Bash, and hit the ↻ Refresh icon. What changes when you hit refresh? <br><br><br> e. Go back to your browser and examine your GitHub fork. Refresh the page – what message does it say about your branch and NorthcoteHS:master? | |
| 12. | toDo is missing a file extension. Add an appropriate file extension and commit it with an appropriate message. | 2 |
| 13. | Every GitHub project is made better by a readme that describes the project to others. Add a file named README.md at the root level with the following text, and commit with an appropriate message: <br><br> `# Pet Dating App` <br><br> `Our app puts playdates in the paws of your pets!` <br><br> `## Authors` <br><br> `Jodie, Allen, Elyse, and Denny` | 2 |
| 14. | You're all done! Push all of your commits to your GitHub fork using the ⬆ Push button. You will need to enter your GitHub credentials. | 1 |
| 15. | Back on your GitHub page, find the "Pull request" button on the right (under the green Clone button). <br> • Click it, then hit the green "Create pull request". <br> • Enter your name in the "Title" field, then hit the second green "Create pull request" button at the bottom. <br><br> This submits your fork's changes back to the original repository for review! | 1 |