Release Notes Report

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1. **Overview**/General Remarks:
   1. Version Control Summary
      1. Describe the **benefits** of version control tools in organizing software development projects.

Version control tools such as Git and Bitbucket have revolutionized the way software development projects are organized and managed. Some benefits of using version control tools include tracking changes, backup generation, ease of experimentation in development, and collaboration (Metwalli 2020). Overall, version control tools provide a structured approach to software development, enabling developers to work more efficiently, collaborate effectively, and ensure the quality of the codebase.

* + 1. Describe how version control helped you **manage** your source code in developing the Calculator app.

The version control system implemented this week was very helpful in managing the changes I made. Unfortunately, due to technical difficulties with the Apporto app I had to migrate the code base from the U drive to the Z drive. Since the division function was added prior to the drive migration the initial commit in the local repo and the division branch were combined. However, this did not really affect my ability to effectively separate the commits of the different functions.

1. Development:
   1. Explain the **benefits** of **pushing local repositories** to remote shared repositories specific to expanding the functionality of repositories. Be sure to explain how **configuration and cloning** can be used to expand the functionality of repositories.

Pushing local repositories to remote shared repositories can bring several benefits to expanding the functionality of repositories. Some of those benefits include collaboration, backup and recovery, and accessibility. By pushing your local repository to a remote shared repository, you can collaborate with other team members on the same project. This allows multiple people to work on the same codebase simultaneously and track changes made by others. It also facilitates code reviews and helps ensure consistency in your coding conventions. Pushing your local repository also serves as a backup mechanism for your code. If you lose your local copy of the repository, you can always retrieve it from the remote repository. Additionally, if you accidentally delete or modify files in your local repository, you can recover them from the remote repository. In making your code available on a remote shared repository, you can access it from anywhere with an internet connection. This is particularly useful if you need to work on your code from different devices or locations.

To expand the functionality of repositories, configuration and cloning can be used to customize the behavior of software applications, including version control systems. By configuring your version control system, you can control how it interacts with your code and with other team members' code. For example, you can set up access controls to ensure that only authorized team members can modify specific files or that only specific members can approve branch merges with main. Cloning allows you to work independently on the code locally and push changes to the remote shared repository when you are ready (Sphitz 2022). Cloning is also useful for creating local copies of repositories that you may not have access to otherwise. For example, if you want to contribute to an open-source project, you can clone the project's repository to your local machine and make changes to it before submitting a pull request.

References:

Metwalli, S. A. (2020, October 14). *Version control 101: Definition and benefits*. Medium. Retrieved March 11, 2023, from https://towardsdatascience.com/version-control-101-definition-and-benefits-6fd7ad49e5f1

Sphitz, A. (2022, September 4). *Git clone: How to clone A repo in git*. Initial Commit. Retrieved March 18, 2023, from https://initialcommit.com/blog/git-clone