Version Control Education & Best Practices

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Keeping track of changes to a project is important to answer comments & supporting info for reviewers, editors, and readers

Software, such as Git, tracks changes (what, when and who) and synchronize to a central location

Best Practices/Recommendations

1. Back up (almost) everything created by a human as soon as it is created
2. Keep changes small to be able to investigate specific changes in a version
   1. Rule of thumb: group changes you could imagine wanting to undo in one step
3. Share changes frequently
4. Create, maintain, and use a checklist for saving and sharing changes to a project
   1. Write log messages that explain any changes, size and content of individual changes, style guidelines for code, update to-do lists, and bans on committing half-done work/broken code
5. Store each project in a folder that is mirrored off the working machine
   1. Use a system such as Dropbox or a remote repository such as GitHub

Approach 1: Manual Versioning

* Create a file title “CHANGELOG.txt” under a documentation folder to make dated notes about changes to the project
* Make copies of projects into folders that are date-titled whenever a significant change is made
* Have to coordinate so only one person is working on project at a time

Approach 2: Version Control Systems

* Requires less self-discipline as it automates some steps
* What to put/not put in Version Control Systems:
  + File comparison is optimized for plain text (i.e. source code)
  + Raw data shouldn’t change, therefore no version control needed
  + Results should be able to be generated from software
    - Can be kept if small and want to compare across versions
  + Benchmark for size limit is around 100 MB
  + Watch for sharing sensitive data