



GitSubmit: Integrating VCS in Introductory CS Classes

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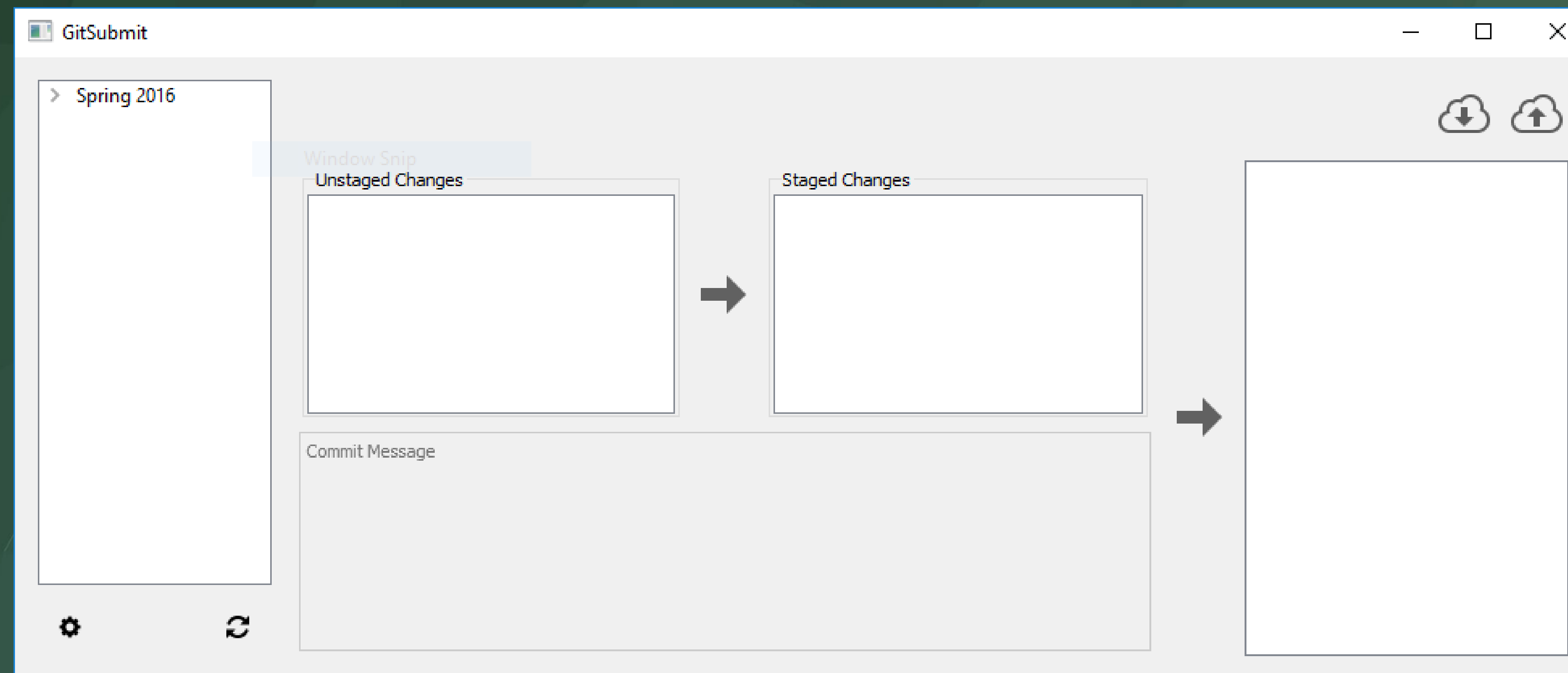
GitSubmit

- Written with Python and QT
- Simplified Git client that integrates with GitLab
- Organizes assignments by semester and class
- Only provides necessary functionality to submit assignments (clone, add, commit, push, pull)

Cognitive Dimensions

- Six Cognitive Dimensions Measured:
 - Diffuseness/Terseness
 - Error-Proneness
 - Hard Mental Operations
 - Premature Commitment
 - Progressive Evaluation
 - Role-Expressiveness
- Evaluated with student responses to survey

The UI



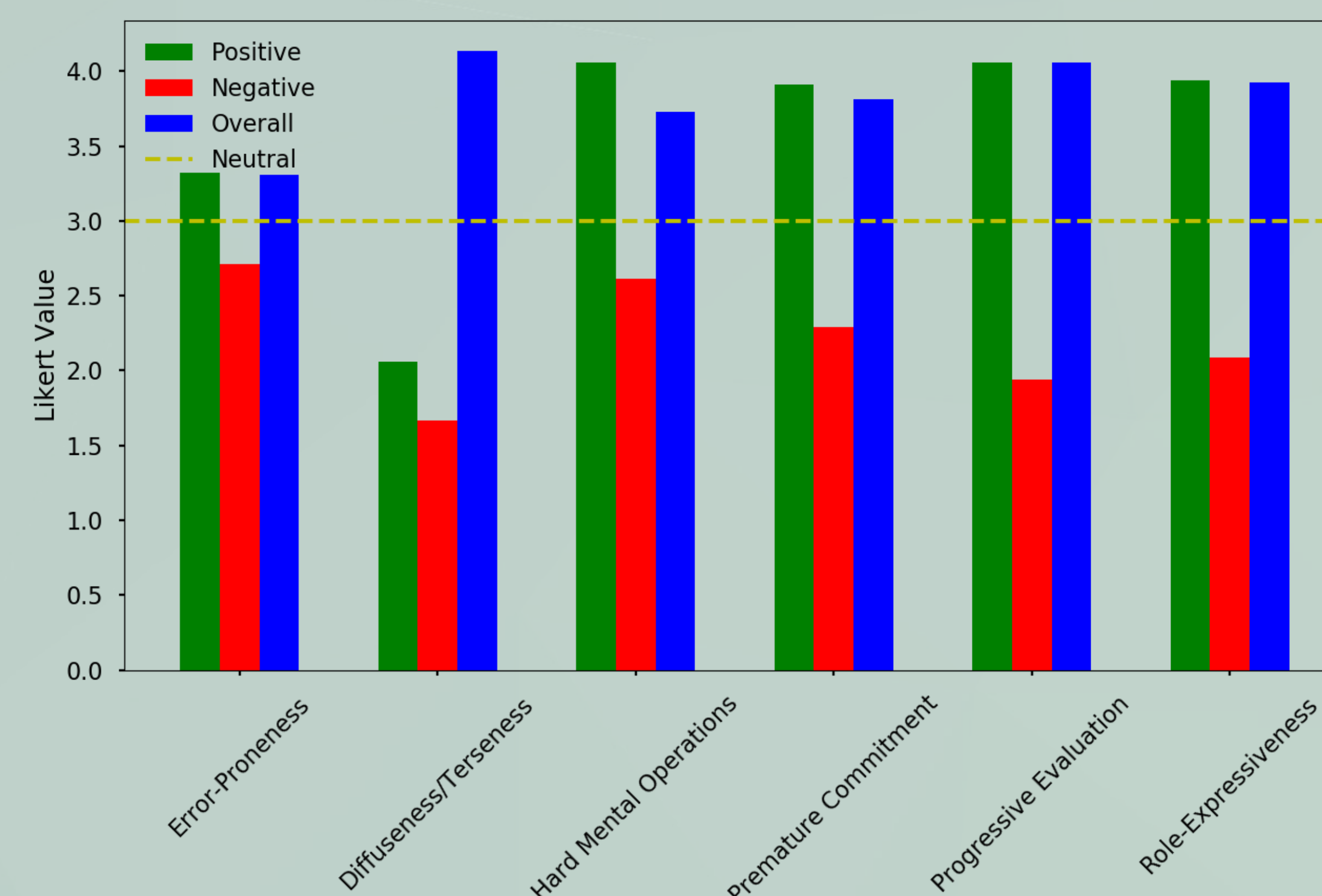
Results

Example Evaluation Statement:

- The UI makes it easy to make a mistake in the submission process.
- The UI makes it difficult to make a mistake in the submission process.
- The UI is not expressive enough to complete a submission.
- The UI is cluttered or complex.

Most dimensions had a positive and negative

Diffuseness/Terseness questions all had negative wording. This was adjusted for the overall score for this category.



Conclusions

- Evaluation of Cognitive Dimensions indicates GitSubmit performs well in its task
- Strongest aspects: Diffuseness/Terseness, Progressive Evaluation
- Weakest aspects: Error-Proneness
 - Implementation had some stability and network issues
- Non-novice responses indicate that GitSubmit has neither too much or too little abstraction

Additional Resources

- <https://git-scm.com/downloads/logos>
- T. R. Green. Cognitive dimensions of notations. People and Computers V, pages 443–460, 1989.
- S. Chacon. Pro Git. Apress, Berkely, CA, USA, 2nd edition, 2014.
- GitLab. Code, test, and deploy together with GitLab open source git repo management software, <https://about.gitlab.com>

Acknowledgements

Student feedback approved by the IRB committee at Northwest Missouri State University.

Feedback is from students enrolled in Data Structures and Operating Systems classes at Northwest.

Poster Repository

GitHub

[nwmostate/csis-poster-templates](https://github.com/nwmostate/csis-poster-templates)