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Implementing a visual programming editor for VPython[1] CODY BLAKENEY, MICHAEL DUBE, HUNTER CLOSE, AIMEE ROUNDTREE, Texas State University — Programing skills are becoming increasingly more important in physics and other STEM fields. Existing tools for teaching physics and engineering using computational modeling, like VPython, can require students to already have a foundation of programming, thus narrowing students learning opportunities. Block programming with visual environments like Blockly provides a way to engage learners with algorithmic thinking without extensive pre-requisite knowledge of keywords, functions, and syntax. It has also been observed to have various benefits for beginning programmers. We have created a prototype for a visual programing environment that allows students to create physics simulations utilizing the open source projects VPython and Blockly. This prototype is currently being imported into an existing website for teaching coding, and we hope to report on that process as well. We discuss lessons learned during development and initial user testing about the challenges of making a visual programming environment for physics simulations.

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