

**CS 520: Object-Oriented Programming**

**Submission Date:** November 9, 2009; Fall/2009

**Homework:** Project Proposal

**Team Name:** Green Team

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**Project:** A graphical representation of PDA (Pushdown Automata) in Smalltalk

We are thinking to implement a graphical representation of PDA (Pushdown Automata) using Pharo development environment. The purpose of the project is to give a good understanding of how the Pushdown Automata works. A Monticello version will be kept on the [www.squeaksource.com](http://www.squeaksource.com).

The project will have the following *phases*:

1. Create the object design in which the following will be taken care
  - o The representation of language
  - o Identify possible objects in the project
  - o Implement the objects chosen.
2. Create the User Interface
3. Create the animation of state transitions based on the input string.

User Interface *Stories*:

The user interface will be visualized with a menu option to choose a language, an empty stack, and a representation of the states according to the language choice of the user.

1. The user will choose a language to determine if the input string will be accepted or not.
2. The user will enter the input string in the input box on the user interface.
3. The user will press a button to start the PDA.
4. The PDA animates the transition of the states and dynamically manipulates the stack and the position on the input string.
5. The PDA will post the report of the running application, which includes if the string was accepted or not.

## Sample Screen Shot:

User Interface

