Sprint 6 Plan

Go Compiler

May 16th - May 30th

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Task listing, organized by user story

Sprint 6

(4)User Story 1: As a user, I would like global variables to be changed at the global scope level when updating them inside a function's scope

Assigned: Kyle

Tasks:

- **(2)Kyle:** Create the Truffle read and write nodes for the global variables.
- **(2)Kyle:** Create a writer visitor file following the visitor pattern for global variables of various object types

(14)User Story 2: As a user, I would like extensive documentation about what type of subset is available to use

Assigned: Kyle

Tasks:

- **(2)Kyle:** Create small github site for the GoLang project
- **(12)Kyle:** Add information about each functionality
    - What type of assignments
    - What object types are available
    - What type of expressions
    - Make a small code segment for each functionality
    - Show output of each code segment

(28)User Story 3: As a user, I would like my compiler to give comprehensive error messages and typecheck Nonprimitive types

Assigned: Petar

Tasks:

- **(5) Petar:** Create more compare type functions for each situation that requires a different error message
- **(8) Petar:** Create a systemic way of identifying objects.
- **(15) Petar:** Update type checking visitor for the nonprimitive types to return their types and/or throw errors when appropriate

(10)User Story 4: As a user, I would like my compiler to give a list of compile time errors.

Assigned: Trevor

Tasks:

- **(3)Trevor:** Figure out the best way of handling compile time errors using either exceptions or using some other method to output all errors found.
- **(1)Trevor:** Stop the java stack trace being printed
- **(3)Trevor:** Add error catching in Gotruffle compilation and a list of caught errors. If the list is empty, then there are no errors. If the list is not empty then compilation has failed, print errors.
- **(3)Trevor:** Add source sections for better error checking results.

(1)User Story 5: As a user, I would like the compiler to throw an error when a variable that is not defined is used, not have it print a String.

Assigned: Trevor

Tasks:

- **(1):** Upon printing a variable, check that it exists in the frame and print an error if it does not exist, not the toString() of the variable.

(2)User Story 6: As a user, I would like the compiler to complain if I have unused variables.

Assigned: Trevor

Tasks:

- **(1):** Create a set to keep track of all user defined variables
- **(1):** Remove variables from the set everytime they are used. At the end of truffle compilation, check if the set is empty. If it is not empty, then there are unused variables.

(3)User Story 7: As a user, I would like test files to understand what part of the Go subset is available to use

Assigned: Vince

Tasks:

- **(3):** Add several unit tests showcasing our compiler

(2)User Story 8: As a user, I would like arrays and slices to get copied over properly

Assigned: Trevor

Tasks:

- **Trevor(1):** Fix append built-in bug not creating a new slice copy.
- **Trevor(1):** Check if arrays and slices can consistently be assigned to each other.