Project Title: Generalized Language Abstraction and Specification System (GLASS)

Team Members:
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Alexander Lockard (alockard2022@my.fit.edu)

Faculty Advisor/Client:
Dr. Stansifer (ryan@fit.edu)
Florida Institute of Technology, Department of Computer Science

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Current Milestone Progress Matrix:

Task	Completion %	Tommy	Xander	Todo
Syntax specification file interpretation	100%	85%	15%	
Basic macro interpretation / XML manipulation	50%	10%	40%	Implement basic macros. Continue implementation of macro interpreter
Continued research of parser generators	100%	50%	50%	
Begin documentation	90%	45%	45%	Find a way to easily put documentation on website

Task Discussion:

Syntax specification file interpretation

- Solidified and implemented specification file grammar
- Implemented file interpreter

Basic macro interpretation/XML manipulation

- Solidified "alpha" macro specification file grammar
- Started work on macro specification file interpreter
- Discussed basic macro ideas
- XML has been mostly scrapped for now

Continued research of parser generators

- Brief investigation of JQ complete
- JQ will give inspiration for how the macro system should work
- Brief investigation of Visual BNF (this will be very useful for designing our GUI)

Begin documentation

- The beginnings of our documentation have been created.
- Documentation is currently in a Google Doc until we decide on a way to display the documentation on our website.

Team Member Contributions:

Tommy Galletta:

- Developed syntax specification interpreter
- Researched JQ
- Worked on documentation
- Assisted in designing the macro specification format

Alexander Lockard:

- Research Visual BNF
- Assisted in designing the syntax specification format
- Started work on macro interpreter
- Worked on documentation

Milestone 4 Plan:

Task	Tommy	Xander
Add options and ease of use features	Implement debugging features	Add settings for syntax specification files
GUI-based syntax specification system	Debug and assist with creating GUI system	Implement main GUI system
Continue writing documentation and host it on project website	Proofreading/editing documentation, getting documentation on web	Writing documentation
Continued research of other tools	Investigate 1-2 parser generator tools	Investigate 1-2 parser generator tools
Debugging currently implemented systems	Both team members will work to debug all implemented features	

Discussion of Planned Tasks:

Add Options and Ease Of Use Features

- To help with making our tool easier to use in "common" cases, we plan to implement certain default features by the end of Milestone 4.
    - These features will be able to be enabled or disabled at will via the syntax specification file.
- An optional debug argument will be added to GLASS, allowing for a debug report to be written out when the program is run.

Continue writing documentation and host it on project website

- We will continue to work to ensure that all features of our tool are well documented.
- We will find a tool (potential option is Docusaurus) that will allow us to easily transfer our Google Doc documentation to our website.

GUI-based Syntax Specification System

- To allow for easier grammar creation, we will create a GUI based tool with drag-and-drop style features to create productions by joining together "symbol nodes".
- After the user has created a grammar, a syntax specification file containing their grammar will be generated.

Continued research of other tools

- Same as last milestone, we feel that this continued research will help us ensure that we are implementing the right features while also maintaining a level of simplicity and avoiding confusing notation.

Debugging currently implemented systems

- Simply put, we don't want our program to unexpectedly crash. Thorough testing will be done to ensure that our program rarely crashes, and in the event that it does, some useful error message is printed to the user.

Client Feedback on Current Milestone:

- See Faculty Advisor Feedback below

Milestone Three Faculty Advisor/Client Meeting Dates:

- April 3rd
- April 10th

Faculty Advisor Feedback:

Syntax specification file interpretation

- Advisor continues to be happy with the progress made on the parser generator.

Continued research of parser generators

- Advisor is happy to hear that we are still investigating other tools, and has recommended some tools to look into that are "adjacent" to our project.
    - One of these tools, JQ, was investigated during this milestone.

Basic macro interpretation / XML manipulation

- Advisor decided it would be best for us to ditch XML as an intermediate output.
    - We plan to still allow for XML-ized output to be generated via the macro system.
- Advisor sees the separation of the grammar (syntax specification) and the "piggybacking" (macro system) to be the biggest novel feature of our project, but also likely difficult to implement.

Begin documentation

- Advisor had no comments on our documentation.

Other notes

- Advisor hopes we will continue working on the project over the summer (that is our plan).

Faculty Advisor Signature: _____ Date: _____

Evaluation by Faculty Advisor

Please detach and return this page to Dr. Chan (HC 209) or email the scores to pkc@cs.fit.edu

TG = Tommy Galletta
AL = Alexander Lockard

TG	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
AL	0	1	2	3	4	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10

Faculty Advisor Signature: _____ Date: _____