Racket-CFG

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Purpose

The goal of this library is to create a simulation of the following in Racket: 1)
Context-Free Grammars 2) Push-Down Automata 3) Earley Parser for efficient
Context-Free Grammar parsing

Why?

I wrote a library that is a music theory API to Racket's Rsound. As part of
that library, I wrote a simple psuedo-random music generator, however, all of
the valid chord progressions that it uses must be written out by hand.

This library will ultimately be used with racket-synthesis to create a wider variety
of harmonic progressions for the generator, using Context-Free Grammars to
specify the procedural generation of the harmonic progressions.

It will also allow the racket-synthesis users the opportunity to create their own
progression generators and checkers.

Current Status

The project is currently unfinished. It is a larger project than I originally
anticiated,and is taking longer than originally expected.

What is done so far: * Structure and organization of PDA data * Structure and
organization of CFG data * Some structure and organization of Earley parser
data

What needs to be done: * PDA machine accepts * CFG accepts (via Earley
Parser) * PDA <-> CFG conversion