FParsec

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Parsing

There is about four hundred billion different ways to parse things, and philosophies that follow from each.

- Pros and cons to each
- Different levels of difficulty
- Different performance characteristics

Why is this an important discussion?

- Parsing logic tends to be one-off.
- Simple things end up becoming complex.
  - See: MEGA If-renderer
- If it's not planned correctly, reuse becomes difficult or impossible.

What exactly is a Parser Combinator?

A parser combinator is function that parses one thing (e.g. a comma)

- This function can be composed with another function that parses another thing (e.g. a double-quote)
- These functions can be nested and composed arbitrarily and infinitely.

What is a FParsec?

FParsec is a port of the Parsec Haskell library to F#

- Follows F# conventions a bit more than Haskell.
- Built-in support for strings and streams.
- Very good documentation
- Performance is generally ok.
  - Performance is quite good for parses that aren't recursively deep.
  - Potentially exponential time, though FParsec combats this by aggressively memoizing

What is a FParsec?

DEMO