



# HypoTest:

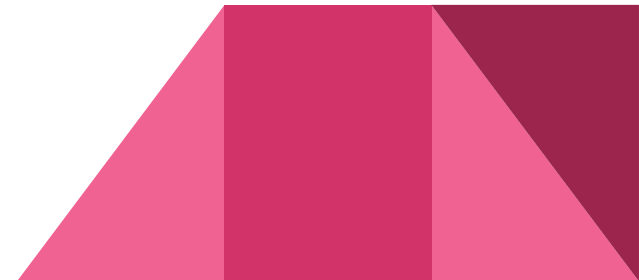
An Easy User Interface to Hypothesis Testing in R

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# Outline

- Motivation
- Before HypoTest
- Implementation
  - R, RStudio
  - GUI
  - Command Line
- Demo
  - Installing the Package
  - Examples
- Limitations and What's Next

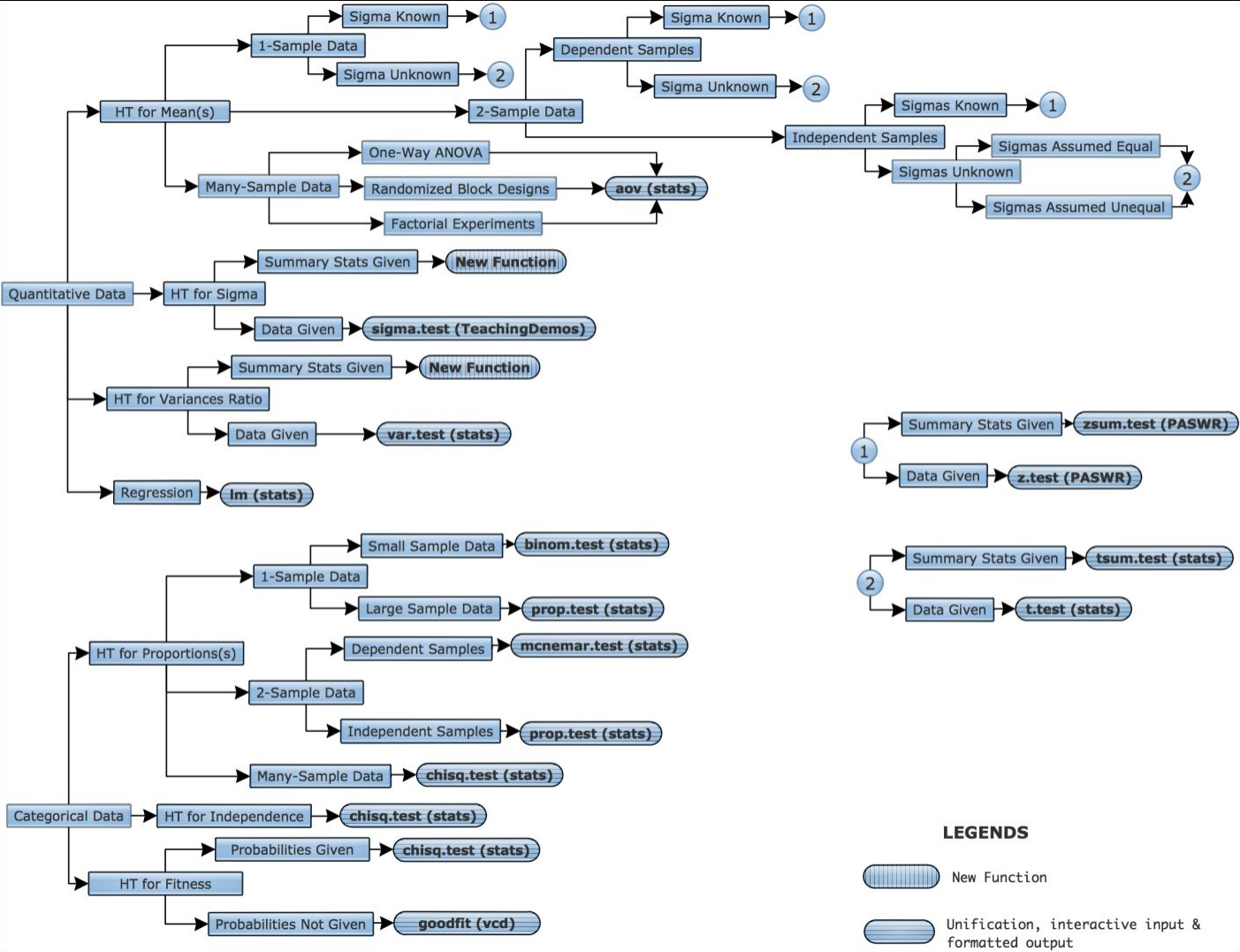


# Motivation

- Consider: Lots of cell phone plans out there
  - Is the average cell phone bill changing?
  - Take a sample in 2004
  - Take another sample today
  - How do we compare them?
- Hypothesis Testing
  - Have a null and an alternative hypothesis
    - Null Hypothesis: The averages are the same
    - Alternative: The averages are different
  - Do math stuff
    - Do we have enough evidence to reject a hypothesis?
    - Accepting a hypothesis just means it is possible
- Many other problems:
  - Product weights, food consumption, medicine effectiveness,...
- Computers
  - R programming language

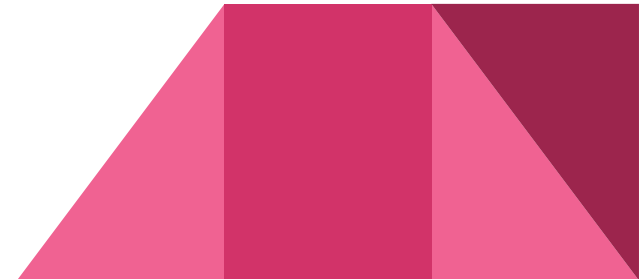


# Before HypoTest

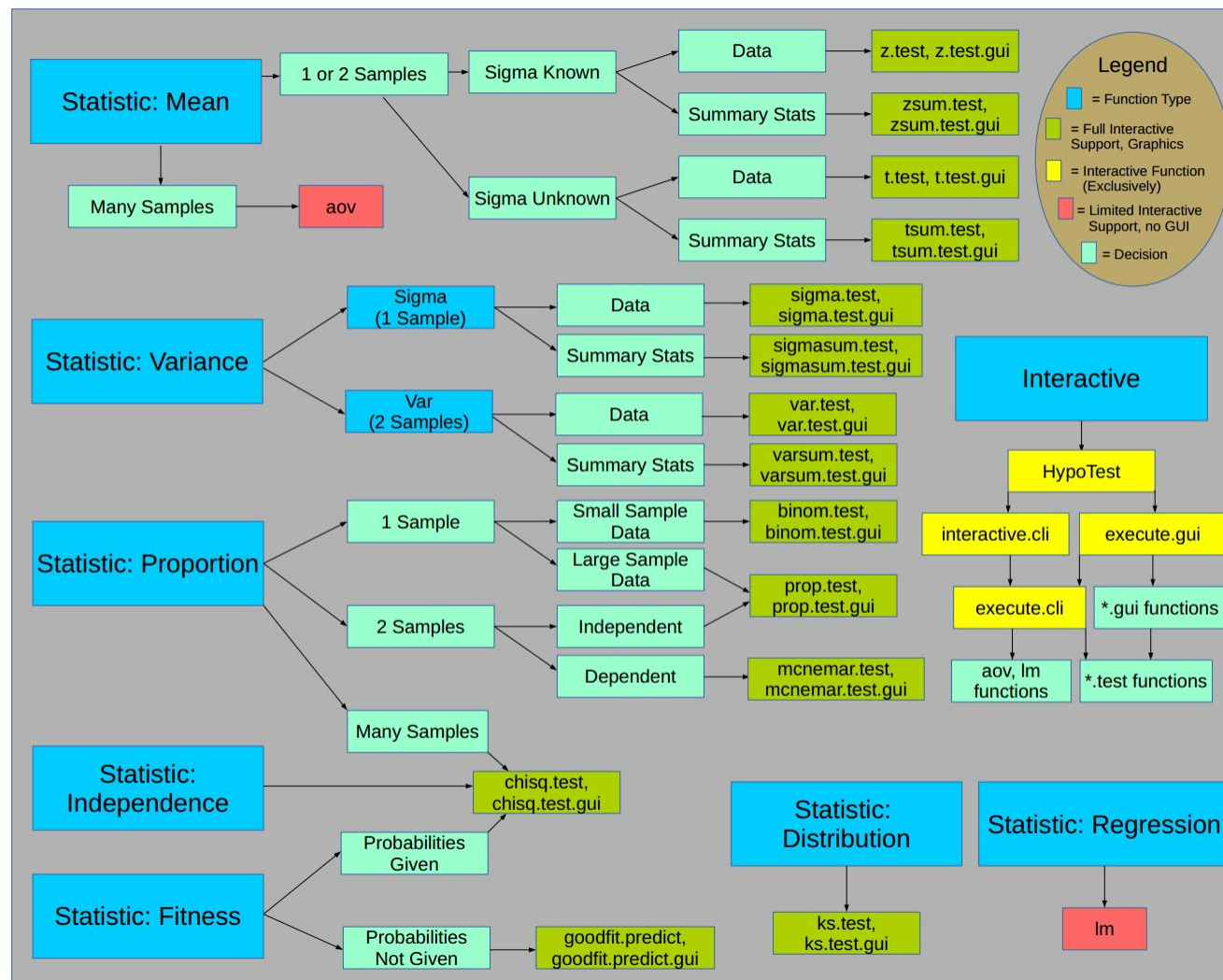


# Implementation

- HypoTest:
  - An R Package
  - Has all of the Functions
  - Is User Friendly
- Graphical User Interface
  - For most functions
  - Typo checking!
- Command Line Interface
  - For all functions
  - Guided, some typo checking
  - Displays help documentation
- Other Features
  - Documentation
  - Just in time compiler
  - Cross platform
  - Don't have to use GUI or CLI



# Implementation



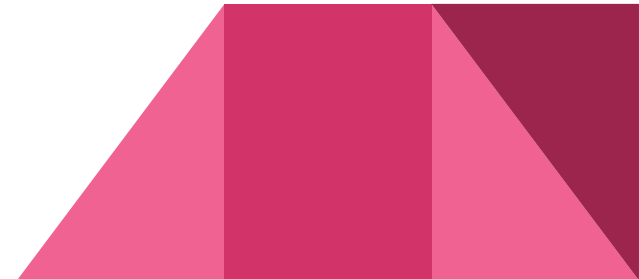
# Demo

Data Example:

Cell Phone Data, Sigma Unknown:

94.25, 38.94, 79.15, 56.78, 70.07, 115.59, 77.56, 37.01, 55, 76.05, 27.29, 52.48

Null Hypothesis: Mean is \$50.64, Alternative Hypothesis: Not equal (two.sided)



# Limitations and What's Next

- Limitations
  - No GUI for all functions
  - Cannot load files of data from the GUI
  - GUI doesn't display help
- What is Next
  - Upload to CRAN Repository

