



# golivia

experiments in Go development

# Ambitions

## **Chapter 1: Code Navigation**

Chapter 2: Live code change

Chapter 3: Live object inspection

Chapter 4: Program snapshot save/restart



# Chapter 1 : Code Navigation

# Func Level Browsing

packages

Funcs

Types

```
golivia Package Browser
```

cmd	Interval	accidental
cmd/melrose	Iterator	CheckTieableTo
cmd/vsc	Loop	durationf
control	MIDINote	DurationFactor
core	MultiTrack	Equals
docs	Nexter	Fraction
docs/images	Note	HasEqualTied
dsl	NoteChange	Inspect
dsl/calc	NoteChangeEvent	IsHearable
midi	NoteEvent	IsPedal
midi/file	NoteEventStatistics	IsPedalDown
midi/io	NotePeriod	IsPedalUp
midi/transport		IsPedalUpDown
notifv		IsPost

```
core > note.go > ..
```

```
18 // http://en.wikipedia.org/wiki/Musical\_Note
19 type Note struct {
20     Name      string // {C·D·E·F·G·A·B·=·^·<·>}
21     Octave    int
22     Accidental int // -1·Flat, +1·Sharp, 0·Normal
23     Dotted    bool // if true then fraction is increased by half
24     Velocity  int // 1..127
25
26     fraction float32 // {0.0625, 0.125, 0.25, 0.5, 1}
27     duration time.Duration // if set then this overrides Dotted and fraction
28
29     tied []Note // succeeding identical notes that are tied to this; mostly empty
30 }
31
```

# Func Level Browsing

packages

The screenshot shows the Golivia Package Browser interface. The left pane lists packages, with 'op' selected. The middle pane shows the contents of 'op', including 2 variables, 67 functions, and 37 tests. The 'TestCheckDynamic' test is highlighted. The right pane shows a list of tests, with 'TestCheckDynamic' selected. The bottom pane shows the source code of 'TestCheckDynamic' in 'dynamic\_test.go'.

```
cmd
cmd/melrose
cmd/vsc
control
core
docs
docs/images
dsl
dsl/calc
midi
midi/file
midi/io
midi/transport
notify
op
```

2 variables  
67 functions  
37 tests

- AtIndex
- Dynamic
- DynamicMap
- Fraction
- FractionMap
- Group
- IfCondition
- index2dynamic
- int2float32
- int2fractionAndDotted
- int2int

Test\_compactGroup  
Test\_parseIndexFloats  
Test\_parseIndexFractions  
Test\_parseIndexFractions\_Fails  
Test\_parseIndexOffsets  
TestAtIndex\_S  
TestCheckDynamic  
TestDecomposeSequence  
TestDynamic\_Storex  
TestFraction\_S  
TestFractionMap  
TestFractionMap.NoColons  
TestImplements  
TestJoin\_Storex  
TestJoinMapper\_S

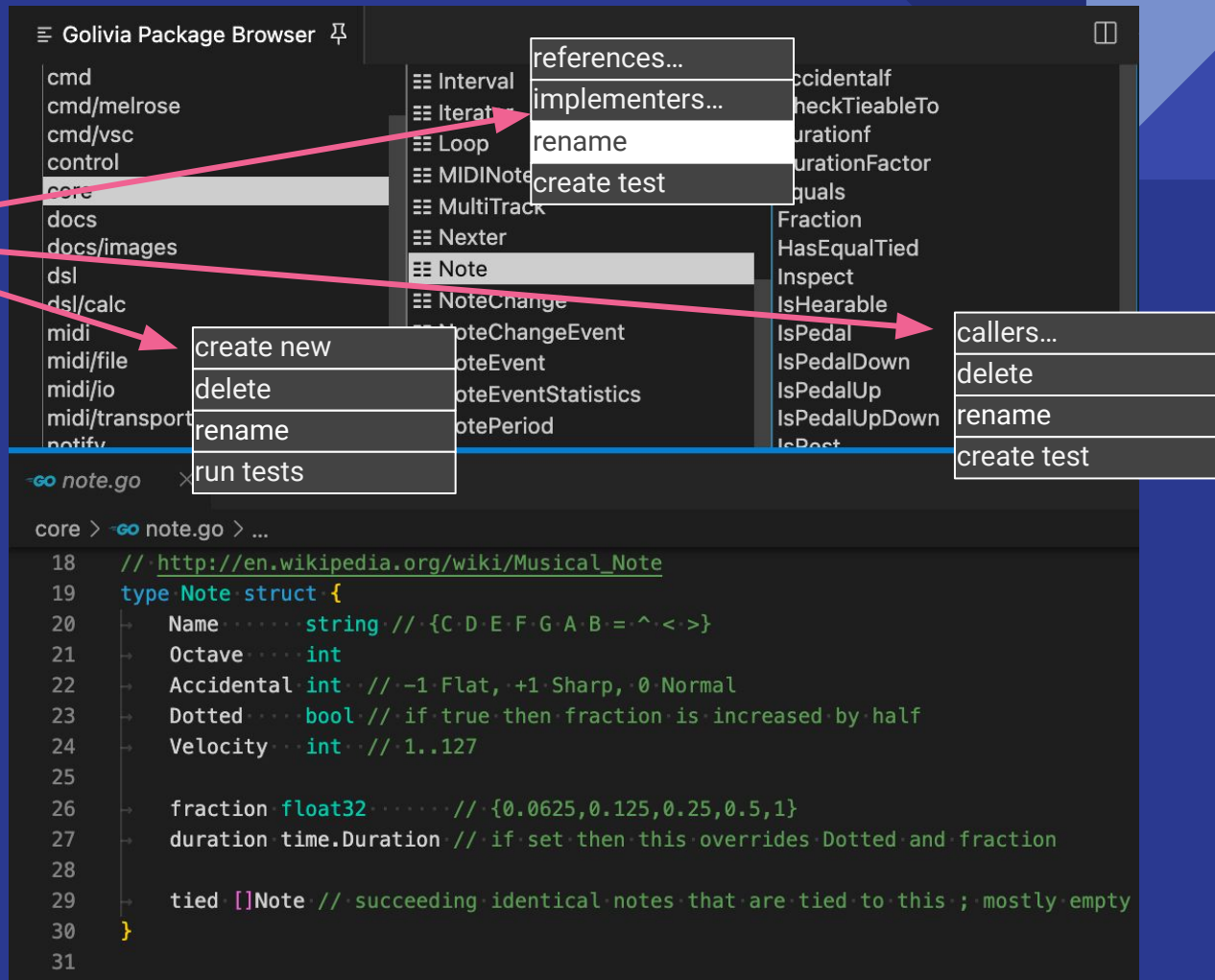
dynamic\_test.go

```
op > dynamic_test.go > ...
23
run test | debug test
24 func TestCheckDynamic(t *testing.T) {
25     type args struct {
26         emphasis string
27     }
28     tests := []struct {
29         name     string
30         args     args
31         wantErr bool
32     }{
33         {"piano", args{"-"}, false},
34         {"normal", args{"o"}, false},
```

Test  
Funcs

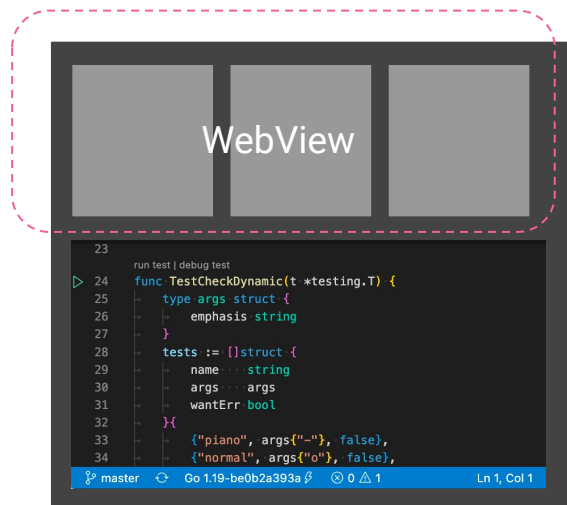
Virtual  
Groups

# Context Menus



# Architecture

## Visual Studio Code Plugin



## Visual Studio Code

`http://localhost:8686/groupings?dirname=/Users/emicklei/xProjects/melrose/midi/io`

golivia-server

walk, read and parse  
Go files

`/melrose/midi/io`