

# ait

## COMS 4115, Spring 2012

Sam Aarons	- Language Guru
Archibong Archbong	- System Tester
Hai Lin	- System Architect
Ethan Nam	- Project Manager
Zhikun Ma	- System Integrator

(alt)ternative language

# Project Plan

```
>> price = 4.99
```

```
=> 499/100
```

```
>> quantity = 3
```

```
=> 3
```

```
>> total = price * quantity
```

```
=> 1497/100
```

```
>> 名前 = "Alfred"
```

```
=> "Alfred"
```

```
>> f = (name) { print("Hello " + name) }
```

```
=> (name) { ... }
```

```
>> f(名前)
```

```
Hello Alfred
```

```
=> nil
```

```
1. bin/alt
sam at bespin in ~/code/alt on master ± bin/alt d1309ad4ae16d0d319e2fc7c08c8aa3d2404addc
alt 0.0.2
>> 名前 = "Alfred"
=> "Alfred"
>> f = (name) { print("Hello " + name) }
=> (name) { ... }
>> f(名前)
Hello Alfred
=> nil
>>
```

Parser/Lexical Analyzer

Interpreter

Runtime

# Runtime

# Context



```
>> f = (name) { print("Hello " + name) }
[#<Alt::AST::AssignCall:0x007f9d1990e4b8
  @identifier="f",
  @value=
    #<Alt::AST::FunctionLiteral:0x007f9d198ea6d0
      @arguments=["name"],
      @expressions=
        [#<Alt::AST::MethodCall:0x007f9d198eaa18
          @arguments=
            [#<Alt::AST::MethodCall:0x007f9d198c6de8
              @arguments=["name"],
              @method="()",
              @receiver=
                #<Alt::AST::MethodCall:0x007f9d198c6f00
                  @arguments=nil,
                  @method="+",
                  @receiver=
                    #<Alt::AST::StringLiteral:0x007f9d198bae08 @string="Hello ">>>],
              @method="()",
              @receiver="print">],
          @pure=true>>]
```

```
fibonacci = (n) {  
  if (n < 1) {  
    return n.abs()  
  } else {  
    fibonacci(n - 2) + fibonacci(n - 1)  
  }  
}
```

```
print(fibonacci(20))
```

```
フィボナッチ = (n) {  
    もし (n < 1) {  
        リターン n.絶対値()  
    } エルス {  
        フィボナッチ(n - 2) + フィボナッチ(n - 1)  
    }  
}  
  
print(フィボナッチ(20))
```

```
1. ~/code/alt
sam at bespin in ~/code/alt on master ± bin/alt -l ja test/ja_test.alt
6765/1
sam at bespin in ~/code/alt on master ± |
```

```
---
methods:
  number:
    abs: "絶対値"
    denominator: "分子"

keywords:
  "if": "もし"
  "elseif": "エルスイフ"
  "else": "エルス"
  "while": "ウワアイル"
  "break": "ブレイク"
  "return": "リターン"
  "true": "トゥルー"
  "false": "ちがう"
  "nil": "ニル"
```

# Questions?