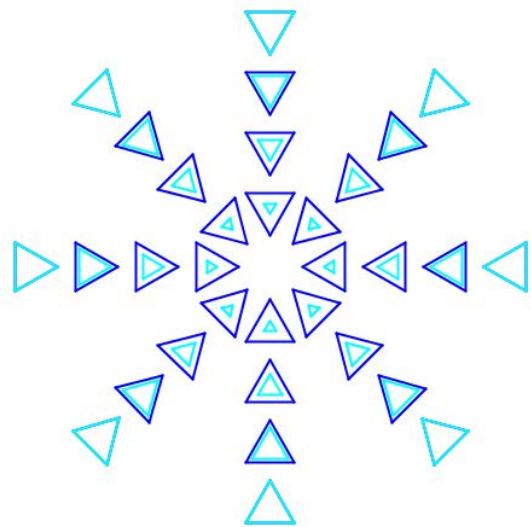


MANDALA



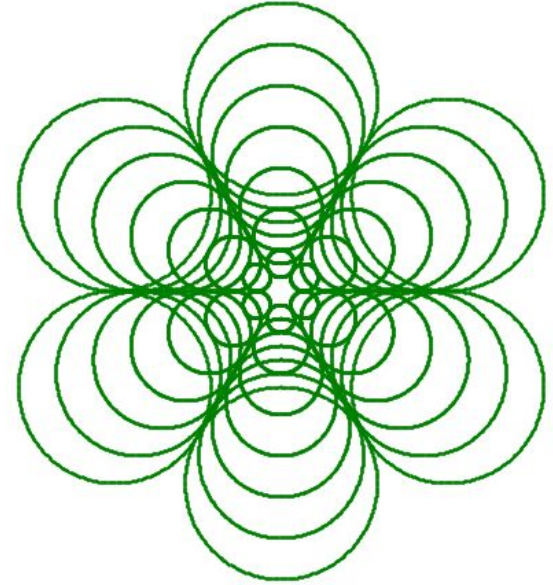
# Team

Edo Roth (Systems Architect)

Harsha Vemuri (Tester)

Kanika Verma (Manager)

Samantha Wiener (Language Guru)



# Motivations

- Mandala is a geometric pattern
- Simple and intuitive code → complex and accurate geometric designs
  - Create symmetric accurate shapes very easily
  - Ensure that geometric patterns are mathematically accurate
- Easy language for users to learn, even without much prior computer science knowledge
  - Artists
  - Students

# Language Building Blocks

Custom Types: Mandala, Layer, Shape

Primitives: Number, Geo

Built-In Functions: draw, addTo

Operators: = + - / \*

Foreach

Functions

# Language Features: Custom Types

Shape

- Geo
- Size
- Color
- Rotation

Layer

- Radius
- Shape
- Count
- Offset
- AngularShift

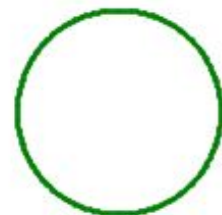
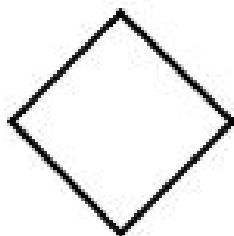
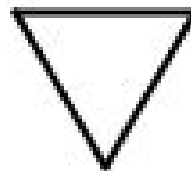
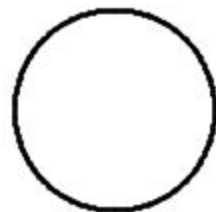
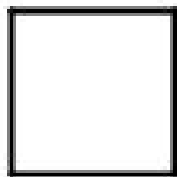
Mandala

- addTo
- draw

- Create - constructor for custom types

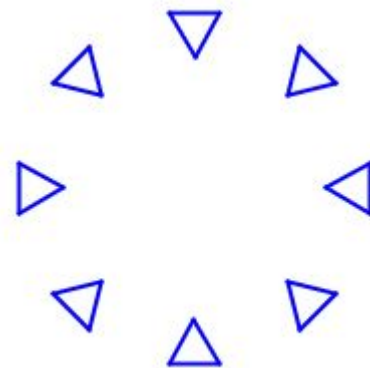
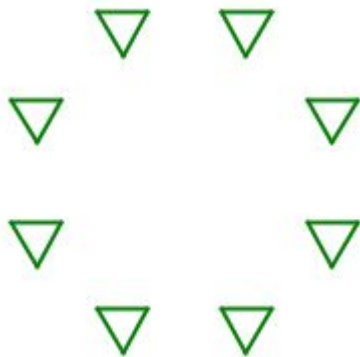
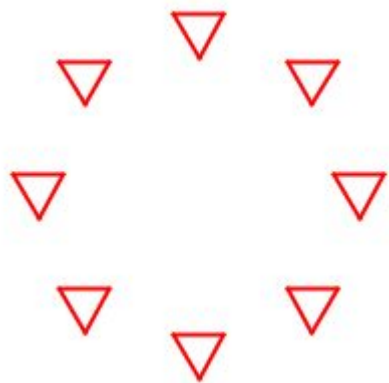
# Shape

- Geo
- Size
- Color
- Rotation



Layer

- Radius
- Shape
- Count
- Offset
- AngularShift



# Sample Program

**Mandala n = Create Mandala**

**Foreach i = 7.0 To 10.0:**

**Number x = i \* 10.0**

**Shape shape1 = Create Shape:**

**Geo square**

**Size x**

**Color cyan**

**Rotation 45.0**

**Layer layer1 = Create Layer:**

**Radius x**

**Shape shape1**

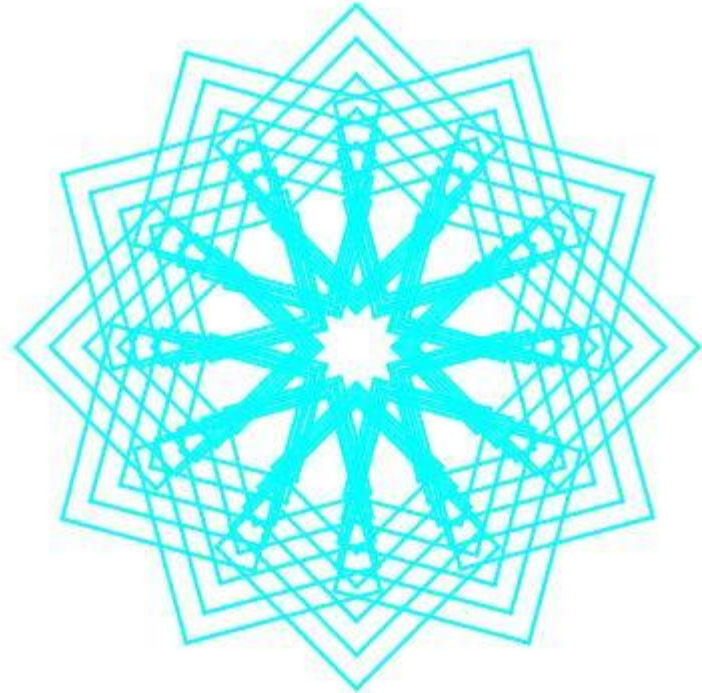
**Count 12**

**Offset 0.0**

**AngularShift 1**

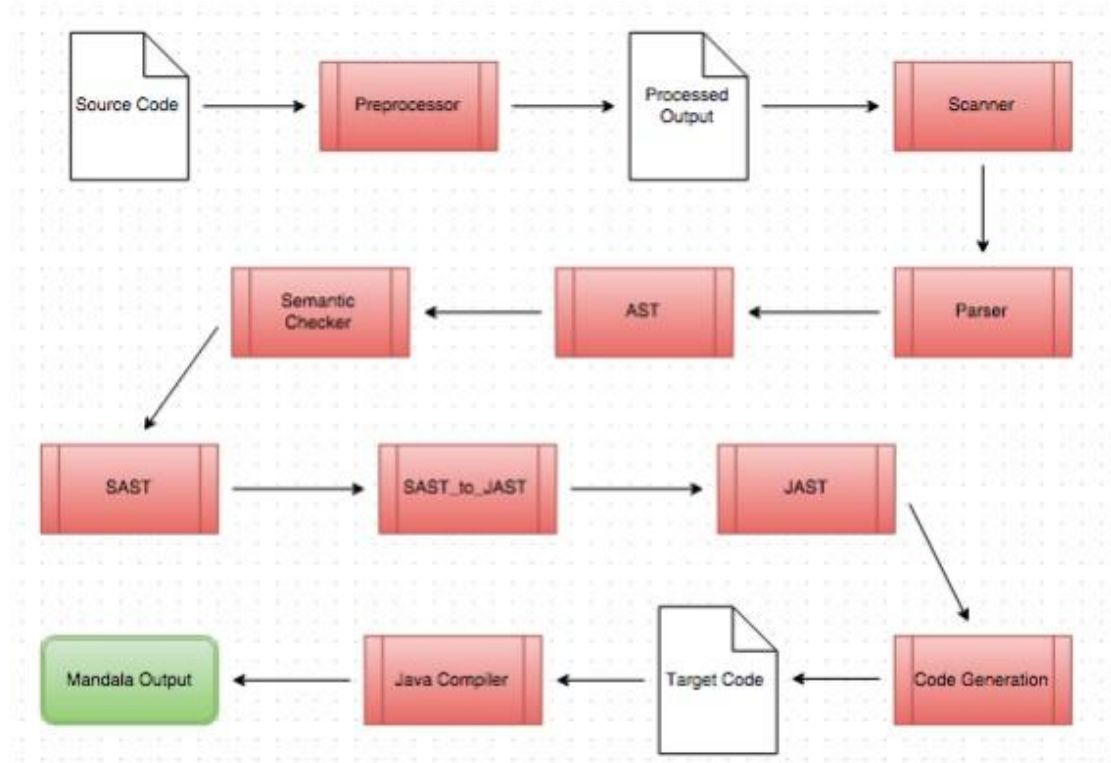
**addTo:(n, layer1)**

**draw:(n)**





# Compiler Architecture



Demo!