

## Exploring Provenance Through Programming

# Incorporating Data Provenance Into Heterogeneous Data Visualizations in the Context of Africa's Voices Foundation

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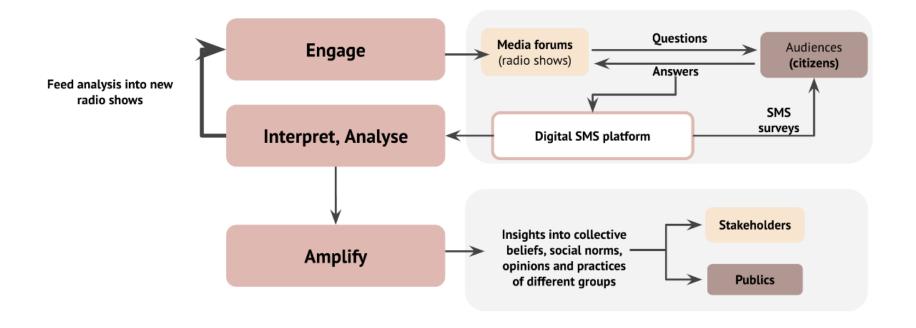
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Africa's Voices Foundation Cambridge, United Kingdom











#### [BETTER FUTURE]

"Girls have to go to school so that they can build their lives after school"
Female, 26 years old, Lochere

### [CAN DO BOTH]

"Yes, she should continue with the studies but when she come back from school in the evening she can now help the parent to do some remaining work"

Male, 22 years old, Kakuma

#### [SOCIETAL BENEFITS]

"The benefit of educating a girl is very important because it is educating the society of today's generation"

Male, 21 years old, Kakuma

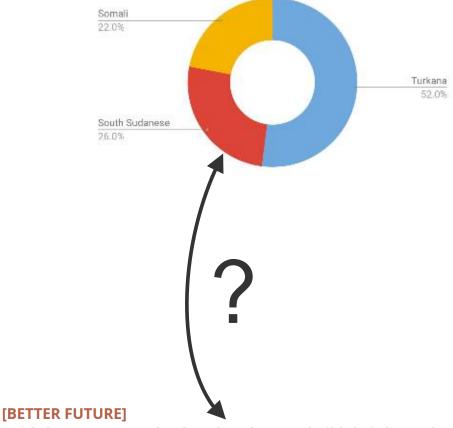
https://www.africasvoices.org/wp-content/uploads/2019/03/AVF-KEEP-II-2018-Pilot-Project-Final-Report-DRAFT1.pdf





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■ ExampleCanvas
                                                                                                                                 _ - ×
versions load save https://lively-kernel.org/lively4/lively4-babylonian-programming/src/babylonian-programming-editor/demo-
         drawMountain (offset, fillStyle) {
          X Cherry at day
            Birch at night
  59
           var x = 0;
  60
           var y = this.canvasHeight - offset;
  61
  62
           this.ctx.beginPath();
  63
           this.ctx.moveTo(x, y);
  64
           while (x >= 0 && x < this.canvasWidth) {
  65
  66
             x += random(2, 10);
  67
             y += random(-4, 3);
  68
             this.ctx.lineTo(x, y);
  69
  70
                                                                                                                                 _ 🗆 ×
                                                                                        ≡ ExampleCanvas
  71
           this.ctx.lineTo(this.canvasWidth, this.canvasHeight);
  72
           this.ctx.lineTo(0, this.canvasHeight);
           this.ctx.closePath();
  73
  74
  75
           this.ctx.fillStyle = fillStyle;
  76
           this.ctx.fill();
           * Q this.ctx: Cherry at day
                           Birch at night
Ready
```







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Incorporating Data Provenance Into Heterogeneous Data Visualizations in the Context of Africa's

**Voices Foundation** 

- Explore means for exploring the provenance of parts of visualizations
- Implement a domain model for working with the AVF provenance data
- Design and implement means to support programming visualizations which allow the exploration of data provenance
- Implement means to use components developed from within Lively 4 independently
- Design and implement example interactive visualizations based on data from AVF

