

Visualizing Program Comprehension

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Research Goals

- **Visual Attention:** Monitor eye movements to discover how programmers comprehend and navigate through code
- **Comprehension Metrics:** Determine differences in comprehension strategies and identify patterns between programmers



Areas of Interest

- **AOI Definition:** Areas of Interest (AOI) are areas drawn around a feature or element
- **Capturing Insights:** Track and quantify participant gaze information within an AOI
 - **Example:** How often a participant glances at an AOI or how long they look there

```
class Main {
  public static void main(String[] args) {

    int n1 = 81, n2 = 153;

    int gcd = 1;

    for (int i = 1; i <= n1 && i <= n2; ++i) {

      if (n1 % i == 0 && n2 % i == 0)
        gcd = i;
    }
  }
}
```

Visualization

- **Fixation Graphs & Heatmaps:** Display information visually for easy comprehension
- **Overlay Data:** Overlay multiple participants to reveal collective focal points
- **Detailed Analysis:** Access CSV files containing each participants' individual gaze points for comprehensive analysis

