

Table1 The original class JFreeChart in JFreeChart

Original Class JFreeChart	
Attributes	Methods
legend data plot antialias chartBackgroundPaint seriesPaint seriesStroke seriesOutlinePaint seriesOutlineStroke listeners	getTitle() getLegend() setLegend(Legend legend) getPlot() getAntiAlias() setAntiAlias(boolean flag) getChartBackgroundPaint() setChartBackgroundPaint(Paint) setSeriesPaint(Paint[]) setSeriesStroke(Stroke[]) setSeriesOutlinePaint(Paint[]) setSeriesOutlineStroke(Stroke[]) getSeriesPaint(int) getSeriesStroke(int) getSeriesOutlinePaint(int) getSeriesOutlineStroke(int) draw(Graphics2D, Rectangle2D) fireChartChanged() addChangeListener(ChartChangeListener) removeChangeListener(ChartChangeListener) notifyListeners(ChartChangeEvent) titleChanged(TitleChangeEvent) legendChanged(LegendChangeEvent) plotChanged(PlotChangeEvent)

Table2 The new classes extracted by developers

Class Extracted by the Developers - 1	
Attributes	Methods
legend data plot antialias chartBackgroundPaint listeners	getTitle() getLegend() setLegend(Legend) getPlot() getAntiAlias() setAntiAlias(boolean) getChartBackgroundPaint() setChartBackgroundPaint(Paint) draw(Graphics2D, Rectangle2D) addChangeListener(ChartChangeListener) removeChangeListener(ChartChangeListener) fireChartChanged() notifyListeners(ChartChangeEvent) titleChanged(TitleChangeEvent)

	legendChanged(LegendChangeEvent) plotChanged(PlotChangeEvent)
Class Extracted by the Developers - 2	
Attributes	Methods
seriesPaint seriesStroke seriesOutlinePaint seriesOutlineStroke	getSeriesPaint(int) setSeriesPaint(Paint[]) getSeriesStroke(int) setSeriesStroke(Stroke[]) getSeriesOutlinePaint(int) setSeriesOutlinePaint(Paint[]) getSeriesOutlineStroke(int) setSeriesOutlineStroke(Stroke[])

Table3 The new classes extracted by our approach

Class Extracted our approach - 1	
Attributes	Methods
listeners legend plot chartBackgroundPaint antialias data	draw(Graphics2D, Rectangle2D) getPlot() getTitle() getAntiAlias() setAntiAlias(boolean) getChartBackgroundPaint() setChartBackgroundPaint(Paint) getLegend() setLegend(Legend) fireChartChanged() plotChanged(PlotChangeEvent) legendChanged(LegendChangeEvent) notifyListeners(ChartChangeEvent) addChangeListener(ChartChangeListener) removeChangeListener(ChartChangeListener) titleChanged(TitleChangeEvent)
Class Extracted our approach - 2	
Attributes	Methods
seriesStroke seriesOutlineStroke seriesOutlinePaint seriesPaint	getSeriesOutlineStroke(int) getSeriesOutlinePaint(int) setSeriesOutlinePaint(Paint[]) setSeriesOutlineStroke(Stroke[]) getSeriesPaint(int) setSeriesPaint(Paint[]) getSeriesStroke(int) setSeriesStroke(Stroke[])

Table 4 The new classes extracted by Bavota's approach[14]

Class Extracted Bavota's approach - 1	
Attributes	Methods
legend seriesPaint seriesStroke	setLegend(Legend) getLegend() setSeriesStroke(Stroke[]) titleChanged(TitleChangeEvent) getTitle() addChangeListener(ChartChangeListener) getAntiAlias() getSeriesPaint(int) getSeriesStroke(int) legendChanged(LegendChangeEvent) setAntiAlias(boolean) setChartBackgroundPaint(Paint) setSeriesPaint(Paint[])
Class Extracted Bavota's approach - 2	
Attributes	Methods
seriesOutlinePaint seriesOutlineStroke data chartBackgroundPaint antialias plot	fireChartChanged() getChartBackgroundPaint() getSeriesOutlinePaint(int) getSeriesOutlineStroke(int) notifyListeners(ChartChangeEvent) plotChanged(PlotChangeEvent) removeChangeListener(ChartChangeListener) setSeriesOutlineStroke(Stroke[]) draw(Graphics2D, Rectangle2D) getPlot() setSeriesOutlinePaint(Paint[])

Table 5 The new classes extracted by Fokaefs' approach

Class Extracted Fokaefs' approach - 1	
Attributes	Methods
listeners legend	legendChanged(LegendChangeEvent) getLegend() fireChartChanged() addChangeListener(ChartChangeListener) notifyListeners(ChartChangeEvent) removeChangeListener(ChartChangeListener)
Class Extracted Fokaefs' approach - 2	
Attributes	Methods
plot seriesOutlinePaint seriesOutlineStroke	getPlot() setAntiAlias(boolean) setChartBackgroundPaint(Paint)

seriesPaint	setLegend(Legend)
seriesStroke	setSeriesOutlinePaint(Paint[])
data	setSeriesOutlineStroke(Stroke[])
chartBackgroundPaint	setSeriesPaint(Paint[])
antialias	setSeriesStroke(Stroke[])
	titleChanged(TitleChangeEvent)
	draw(Graphics2D, Rectangle2D)
	getTitle()
	getSeriesStroke(int)
	getSeriesPaint(int)
	getSeriesOutlineStroke(int)
	getSeriesOutlinePaint(int)
	plotChanged(PlotChangeEvent)
	getChartBackgroundPaint()
	getAntiAlias()