

Table1 The original class DefaultApplicationModel in JHotDraw

Original Class DefaultApplicationModel	
Attributes	Methods
name	setName(String newValue)
version	getName()
copyright	setVersion(String newValue)
viewClass	getVersion()
viewClassName	setCopyright(String newValue)
NAME_PROPERTY	getCopyright()
VERSION_PROPERTY	setViewClassName(String newValue)
COPYRIGHT_PROPERTY	setViewClass(Class newValue)
VIEW_CLASS_NAME_PROPERTY	getViewClass()
VIEW_CLASS_PROPERTY	createView()
	createToolBars(Application, View)
	createMenus(Application, View)
	createEditMenu(Application, View)
	initView(Application, View)

Table2 The new classes extracted by developers

Class Extracted by the Developers - 1	
Attributes	Methods
name	setName(newValue)
version	getName()
copyright	setVersion(newValue)
Class viewClass	getVersion()
viewClassName	setCopyright(newValue)
NAME_PROPERTY	getCopyright()
VERSION_PROPERTY	setViewClassName(newValue)
COPYRIGHT_PROPERTY	setViewClass(Class newValue)
VIEW_CLASS_NAME_PROPERTY	getViewClass()
VIEW_CLASS_PROPERTY	createView()
Class Extracted by the Developers - 2	
Attributes	Methods
	createToolBars(Application, View)
	createMenus(Application, View)
	createEditMenu(Application, View)
	initView(Application, View)

Table3 The new classes extracted by our approach

Class Extracted our approach - 1	
Attributes	Methods
viewClass	setViewClass(Class)
viewClassName	getViewClass()
name	initView(Application, View)
COPYRIGHT_PROPERTY	createView()

Class Extracted our approach - 1	
Attributes	Methods
NAME_PROPERTY VERSION_PROPERTY VIEW_CLASS_NAME_PROPERTY VIEW_CLASS_PROPERTY version copyright	setViewClassName(String) setName(String) getName() setVersion(String) getVersion() setCopyright(String) getCopyright()
Class Extracted our approach - 2	
Attributes	Methods
	createEditMenu(Application, View) createMenus(Application, View) createToolBars(Application, View)

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

Class Extracted Bavota's approach - 1	
Attributes	Methods
copyright version VERSION_PROPERTY COPYRIGHT_PROPERTY	getCopyright() createMenus(Application, View) setCopyright(String) setVersion(String) getVersion()
Class Extracted Bavota's approach - 2	
Attributes	Methods
VIEW_CLASS_PROPERTY VIEW_CLASS_NAME_PROPERTY NAME_PROPERTY viewClassName name viewClass	setViewClassName(String) createEditMenu(Application, View) createToolBars(Application, View) createView() getName() getViewClass() setViewClass(Class) setName(String)

Table 5 The new classes extracted by Fokaefs' approach

Class Extracted Fokaefs' approach - 1	
Attributes	Methods
copyright VIEW_CLASS_PROPERTY VIEW_CLASS_NAME_PROPERTY VERSION_PROPERTY NAME_PROPERTY COPYRIGHT_PROPERTY	createMenus(Application, View) createEditMenu(Application, View) setViewClassName(String) setVersion(String) setCopyright(String) getVersion()

version	getCopyright()
viewClassName	
Class Extracted Fokaefs' approach - 2	
Attributes	Methods
name	createToolBars(Application, View)
viewClass	createView() getName() getViewClass() setViewClass(Class) setName(String)