

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()
NAME_PROPERTY	setViewClassName(String)

Class Extracted our approach - 1	
Attributes	Methods
VERSION_PROPERTY VIEW_CLASS_NAME_PROPERTY VIEW_CLASS_PROPERTY version copyright	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)