Module Interface Specfication for Group 10 - CamRuler

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Contents

1 Module Hierarchy

Level 1	Level 2
Hardware Hiding Module	
Behaviour Hiding Module	DrawView Module ImageSurface Module InputDialog Module Ruler Module Utils Module
Software Decision Module	Main Activity Module

Table 1: Module Hierarchy

2 MIS of DrawView Module

2.1 Interface Syntax

2.1.1 Exported Access Programs

Name	In	Out	Exceptions
DrawView	context	-	-
onDraw	canvas	-	-
onTouchEvent	event	-	-
clearCanvas	clearCanvas	-	-
Calculate	double, int, int	double	-

2.2 Interface Semantics

2.2.1 State Variables

paint: paint - holds drawin line information circlePoints: List<Point> - stores user's drawn points Context: context - Holds the context of current state of the object Referencepointcolor: Color - holds color information Measurepointcolor: Color - holds color information

2.2.2 Environmental Variables

Not Applicable

2.2.3 Assumptions

Variables should be set before trying to access them

2.2.4 Access Program Semantics

DrawView(context):
    Input: context
    Transition: Prepares the context of the object to be drawn on
    Output: None
Exceptions: None

onDraw(Canvas):

Input: Canvas the object to draw on
Transition: Draws the line between two points after user inputs the reference points
Output: none
Exception: none

onTouchEvent(event):
Input: event
Transition: Restricts the user to draw only 4 points and manages the transition between each point drawn
Output: none
Exception: none

clearCanvas():
Input:
Transition: Clears the canvas of all points drawn
Output: none
Exception: none

Calculate():
Input: double length of reference object, int input unit index, int output unit index
Transition: Calculates the measurement
Output: the measuremnt of the drawn object
Exception: none

3 MIS of ImageView

3.1 Interface Syntax

3.1.1 Exported Access Programs

Name	In	Out	Exceptions
ImageSurface	context, image	-	-
onDraw	canvas	-	-
Surfacecreated	holder		-

3.2 Interface Semantics

3.2.1 State Variables

icon: Bitmap - used to store point drawing info paint: Paint - ink info

3.2.2 Environmental Variables

3.2.3 Assumptions

Variables should be set before trying to access them

3.2.4 Access Program Semantics

ImageSurface(context, image):
Input: context, image
Transition: Craetes a surface to draw on the image

Output: none Exceptions: None

onDraw(canvas):
Input: canvas - the object to draw on
Transition: draws the two points
Output: none
Exception: none

surfacecreated(holder):
Input: holder - holds the surface information
Transition: unlocks the drawing surface when user input is needed or else keep it locked
Output: none
Exception: none

4 MIS of InputDialog

4.1 Interface Syntax

4.1.1 Exported Access Programs

onCreateDialog	Bundle	Dialog	-

4.2 Interface Semantics

4.2.1 State Variables

4.2.2 Environmental Variables

4.2.3 Assumptions

4.2.4 Access Program Semantics

onCreateDialog(savedInstanceState):
Input: no inputs
Transition: Creates a pop up dialog on screen
Output: the dialog
Exception - None

5 MIS of Calculation

5.1 Interface Syntax

5.1.1 Exported Access Programs

Name	In	Out	Exceptions
compute	List<point>, double, Int, Int	double	-
getDistance	Point,Point	double	-
convertUnits	int,double,int,double	double	-
toMeters	double,int	double	-

5.2 Interface Semantics

5.2.1 State Variables

Not Applicable

5.2.2 Environmental Variables

5.2.3 Assumptions

5.2.4 Access Program Semantics

compute(points, scale, inputindex, outputindex):
Input: List<Point> points, double scale, int inputUnitIndex, int outputUnitIndex
Transition: Calculates the actual measurement in according to reference object
Output: the measurement
Exception:

getDistance(point,point):
Input: two Point objects, p1 and p2
Transition: calculate distance between each point
Output: the distance
Exception:
conveertunits(refunit,reference,meaunit,measurement):
Input: reference input numbere, reference measurement, measuremnt output unit, masurement of oject
Transition: do the conversion math
Out: the converted measurement
Exception:

toMeters(measurement, refunit):
Input: measurement and reference unit indicater
Transition: convert to meters
Output: converted measurment
Exception: none

6 Major Revision History

November 10, 2017 - Revision 0 roughdraft