

# **CK** metrics

By team- cubeX Presented by-Farha naaz Date -17/11/2015





Class	CBO		DIT	LCOM		RFC	SUB		WMC
com.bits.android.stayontime.Activity.AboutActivity		4		)	3	10		1	3
com.bits.android.stayontime.Activity.HelpActivity		4	9	)	3	1		0	3
com.bits.android.stayontime.Activity.MapsActivity		5		3	2	19		4	2
com.bits.android.stayontime.Activity.SplashActivity		3	-		1	7		0	2
com.bits.android.stayontime.ActivityLogin	1	10			1	21		0	11
com.bits.android.stayontime.ActivityVideoChat	1	14			1	56		0	32
com.bits.android.stayontime.Appointment	1	11		5	3	3		0	14
com.bits.android.stayontime.Appointment.Connect		3		2	1	22		3	4
com.bits.android.stayontime.Appointment.Connect1		3		2	1	21		0	4
com.bits.android.stayontime.Appointment.Connect2		2	- :	2	1	5		0	5
com.bits.android.stayontime.Choice	1	12			1	21		0	7
com.bits.android.stayontime.DialogHelper		6	1	L	1	4		9	8
com.bits.android.stayontime.Login		7		5	1	1		0	2
com.bits.android.stayontime.Login.Connect		3		2	1	2		0	7
com.bits.android.stayontime.MainChoice		7		5	1	20		0	3
com.bits.android.stayontime.OpponentSurfaceView		2	- 1	1	3	6		0	8
com.bits.android.stayontime.OpponentSurfaceView.DrawThread		1		2	1	5		0	7
com.bits.android.stayontime.OwnSurfaceView		5		3	2	24		6	29
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread		1		2	1	9		0	6
com.bits.android.stayontime.Prof_choice	1	15		5	1	46		0	11
com.bits.android.stayontime.Prof_choice.Connect		4		2	2	32		0	9
com.bits.android.stayontime.Prof_slot		2		5	1	24		0	1
com.bits.android.stayontime.Prof_view_message		1	(	5	1	8		0	1
com.bits.android.stayontime.Prof_view_message.Connect		3		2	1	43		0	4
com.bits.android.stayontime.Send_message		8		5	2	32		0	8
com.bits.android.stayontime.Send_message.Connect		1		2	2	23		0	3
com.bits.android.stayontime.Send_message.Connect1		3		2	1	10		0	4
com.bits.android.stayontime.SplashScreen		5		)	2	2		0	4
com.bits.android.stayontime.VideoChatApplication		0		I .	2	3		0	3
com.bits.android.stayontime.View_booked		1		5	1	23		0	1
com.bits.android.stayontime.View_booked.Connect		3	- 3	2	1	1		0	4
Total						504			210
Average	6	.2	5.4	. 0	.45	16.25806		1.4	6.77







#### Weighted Methods per Class

 Number of methods in each class, weighted by the complexity of each.

WMC Total : 210WMC Mean : 6.77

class	WMC
com.bits.android.stayontime.Prof_view_message	8
com.bits.android.stayontime.View_booked	7
com.bits.android.stayontime.Prof_slot	7
com.bits.android.stayontime.Activity.SplashActivity	4
com.bits.android.stayontime.Activity.MapsActivity	6
com.bits.android.stayontime.Login	4
com.bits.android.stayontime.MainChoice	4
com.bits.android.stayontime.Activity.AboutActivity	4
com.bits.android.stayontime.Activity.HelpActivity	4
com.bits.android.stayontime.VideoChatApplication	5
com.bits.android.stayontime.Send_message.Connect	3
com.bits.android.stayontime.View_booked.Connect	9
com.bits.android.stayontime.Send_message.Connect1	29
com.bits.android.stayontime.Appointment.Connect	8
com.bits.android.stayontime.Prof_view_message.Connect	3
com.bits.android.stayontime.Appointment.Connect1	14
com.bits.android.stayontime.SplashScreen	3
com.bits.android.stayontime.Appointment.Connect2	11
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	7
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	32
com.bits.android.stayontime.Login.Connect	8
com.bits.android.stayontime.Choice	2
com.bits.android.stayontime.Send_message	11
com.bits.android.stayontime.DialogHelper	1
com.bits.android.stayontime.OpponentSurfaceView	1
com.bits.android.stayontime.Prof_choice.Connect	1
com.bits.android.stayontime.Prof_choice	2
com.bits.android.stayontime.ActivityLogin	3
com.bits.android.stayontime.Appointment	3
com.bits.android.stayontime.OwnSurfaceView	2
com.bits.android.stayontime.ActivityVideoChat	4
Total	210
Average	6.77

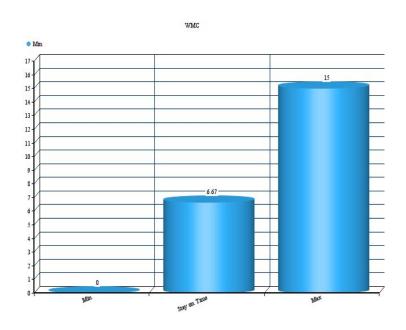




### Weighted Methods per Class

Threshold: 0-15

**Stay on Time : 6.77** Higher is value=> more complex







#### **Depth of Inheritance Tree**

- Number of discrete levels in the inheritance tree.
- DIT Mean=5.4



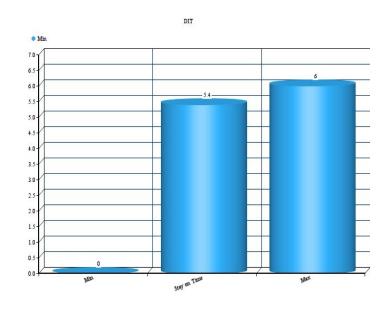
Class	DIT
com.bits.android.stayontime.Activity.AboutActivity	9
com.bits.android.stayontime.Activity.HelpActivity	9
com.bits.android.stayontime.Activity.MapsActivity	8
com.bits.android.stayontime.Activity.SplashActivity	9
com.bits.android.stayontime.ActivityLogin	5
com.bits.android.stayontime.ActivityVideoChat	5
com.bits.android.stayontime.Appointment	5
com.bits.android.stayontime.Appointment.Connect	2
com.bits.android.stayontime.Appointment.Connect1	2
com.bits.android.stayontime.Appointment.Connect2	2
com.bits.android.stayontime.Choice	5
com.bits.android.stayontime.DialogHelper	1
com.bits.android.stayontime.Login	5
com.bits.android.stayontime.Login.Connect	2
com.bits.android.stayontime.MainChoice	5
com.bits.android.stayontime.OpponentSurfaceView	3
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	2
com.bits.android.stayontime.OwnSurfaceView	3
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	2
com.bits.android.stayontime.Prof choice	5
com.bits.android.stayontime.Prof choice.Connect	2
com.bits.android.stayontime.Prof slot	5
com.bits.android.stayontime.Prof view message	6
com.bits.android.stayontime.Prof view message.Connect	2
com.bits.android.stayontime.Send message	5
com.bits.android.stayontime.Send message.Connect	2
com.bits.android.stayontime.Send message.Connect1	2
com.bits.android.stayontime.SplashScreen	9
com.bits.android.stayontime.VideoChatApplication	4
com.bits.android.stayontime.View booked	6
com.bits.android.stayontime.View booked.Connect	2
Total	
Average	5.4



### **Depth of Inheritance Tree**

• Threshold: 0 - 6

• Stay on Time: 5.4







- Immediate subclasses of a class
- Indicates breadth of tree
- NOC Mean=1.4





Class	SUB
com.bits.android.stayontime.Prof_view_message	0
com.bits.android.stayontime.View_booked	4
com.bits.android.stayontime.Prof_slot	0
com.bits.android.stayontime.Activity.SplashActivity	0
com.bits.android.stayontime.Activity.MapsActivity	3
com.bits.android.stayontime.Login	0
com.bits.android.stayontime.MainChoice	0
com.bits.android.stayontime.Activity.AboutActivity	5
com.bits.android.stayontime.Activity.HelpActivity	0
com.bits.android.stayontime.VideoChatApplication	5
com.bits.android.stayontime.Send_message.Connect	0
com.bits.android.stayontime.View_booked.Connect	0
com.bits.android.stayontime.Send_message.Connect1	0
com.bits.android.stayontime.Appointment.Connect	3
com.bits.android.stayontime.Prof_view_message.Connect	0
com.bits.android.stayontime.Appointment.Connect1	6
com.bits.android.stayontime.SplashScreen	0
com.bits.android.stayontime.Appointment.Connect2	0
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	0
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	6
com.bits.android.stayontime.Login.Connect	0
com.bits.android.stayontime.Choice	0
com.bits.android.stayontime.Send_message	0
com.bits.android.stayontime.DialogHelper	3
com.bits.android.stayontime.OpponentSurfaceView	0
com.bits.android.stayontime.Prof_choice.Connect	4
com.bits.android.stayontime.Prof_choice	4 5
com.bits.android.stayontime.ActivityLogin	0
com.bits.android.stayontime.Appointment	0
com.bits.android.stayontime.OwnSurfaceView	6
com.bits.android.stayontime.ActivityVideoChat	0
Total	
Average	1.4

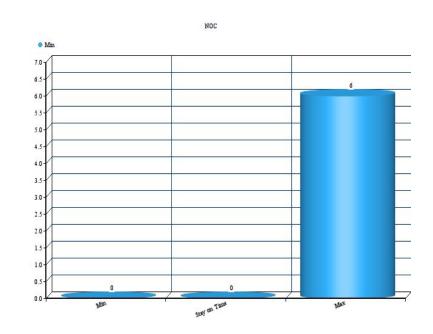


#### Number of children

Threshold: 0 - 6

• Stay on Time : 1.4

Higher value=>more code reusability







### **Coupling between Object Classes**

- Classes are coupled when methods in one classes use methods in another
- CBO Mean=6.2

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	88		

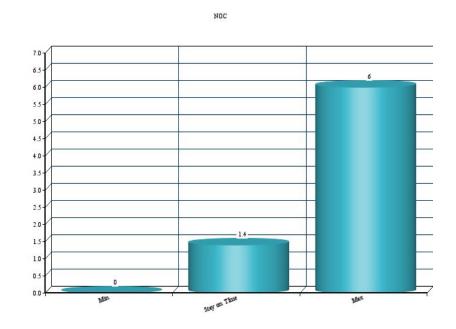
Class	СВО
com.bits.android.stayontime.Activity.AboutActivity	4
com.bits.android.stayontime.Activity.HelpActivity	4
com.bits.android.stayontime.Activity.MapsActivity	5
com.bits.android.stayontime.Activity.SplashActivity	3
com.bits.android.stayontime.ActivityLogin	10
com.bits.android.stayontime.ActivityVideoChat	14
com.bits.android.stayontime.Appointment	11
com.bits.android.stayontime.Appointment.Connect	3
com.bits.android.stayontime.Appointment.Connect1	3
com.bits.android.stayontime.Appointment.Connect2	2
com.bits.android.stayontime.Choice	12
com.bits.android.stayontime.DialogHelper	6
com.bits.android.stayontime.Login	7
com.bits.android.stayontime.Login.Connect	3
com.bits.android.stayontime.MainChoice	7
com.bits.android.stayontime.OpponentSurfaceView	2
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	1
com.bits.android.stayontime.OwnSurfaceView	5
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	1
com.bits.android.stayontime.Prof_choice	15
com.bits.android.stayontime.Prof_choice.Connect	4
com.bits.android.stayontime.Prof_slot	2
com.bits.android.stayontime.Prof_view_message	1
com.bits.android.stayontime.Prof_view_message.Connect	3
com.bits.android.stayontime.Send_message	8
com.bits.android.stayontime.Send_message.Connect	1
com.bits.android.stayontime.Send_message.Connect1	3
com.bits.android.stayontime.SplashScreen	5
com.bits.android.stayontime.VideoChatApplication	0
com.bits.android.stayontime.View_booked	1
com.bits.android.stayontime.View_booked.Connect	3
Total	
Average	6.2



### **Coupling between Object Classes**

• Threshold: 0 - 8

• Stay on Time: 6.2







- Number of methods that could potentially be executed.
- RFC Mean : 16.25





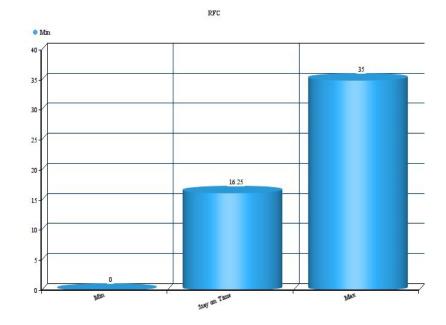
Class	RFC
com.bits.android.stayontime.Activity.AboutActivity	10
com.bits.android.stayontime.Activity.HelpActivity	1
com.bits.android.stayontime.Activity.MapsActivity	19
com.bits.android.stayontime.Activity.SplashActivity	7
com.bits.android.stayontime.ActivityLogin	21
com.bits.android.stayontime.ActivityVideoChat	56
com.bits.android.stayontime.Appointment	3
com.bits.android.stayontime.Appointment.Connect	22
com.bits.android.stayontime.Appointment.Connect1	21
com.bits.android.stayontime.Appointment.Connect2	5
com.bits.android.stayontime.Choice	21
com.bits.android.stayontime.DialogHelper	4
com.bits.android.stayontime.Login	1
com.bits.android.stayontime.Login.Connect	2
com.bits.android.stayontime.MainChoice	20
com.bits.android.stayontime.OpponentSurfaceView	6
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	5
com.bits.android.stayontime.OwnSurfaceView	24
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	9
com.bits.android.stayontime.Prof_choice	46
com.bits.android.stayontime.Prof_choice.Connect	32
com.bits.android.stayontime.Prof_slot	24
com.bits.android.stayontime.Prof_view_message	8
com.bits.android.stayontime.Prof_view_message.Connect	43
com.bits.android.stayontime.Send_message	32
com.bits.android.stayontime.Send_message.Connect	23
com.bits.android.stayontime.Send message.Connect1	10
com.bits.android.stayontime.SplashScreen	2
com.bits.android.stayontime.VideoChatApplication	3
com.bits.android.stayontime.View booked	23
com.bits.android.stayontime.View_booked.Connect	1
Fotal	504
	16.25806



### Response for a class

Threshold: 0 - 35

Stay on Time: 16.25
Higher value=>complex class







#### **Lack of Cohesion in Methods**

- Difference between number of method pairs without shared attributes vs. number of method pairs with shared attributes.
- LCOM Mean: 0.45

Class	LCOM
com.bits.android.stayontime.Activity.AboutActivity	3
com.bits.android.stayontime.Activity.HelpActivity	3
com.bits.android.stayontime.Activity.MapsActivity	2
com.bits.android.stayontime.Activity.SplashActivity	1
com.bits.android.stayontime.ActivityLogin	1
com.bits.android.stayontime.ActivityVideoChat	1
com.bits.android.stayontime.Appointment	3
com.bits.android.stayontime.Appointment.Connect	1
com.bits.android.stayontime.Appointment.Connect1	1
com.bits.android.stayontime.Appointment.Connect2	1
com.bits.android.stayontime.Choice	1
com.bits.android.stayontime.DialogHelper	1
com.bits.android.stayontime.Login	1
com.bits.android.stayontime.Login.Connect	1
com.bits.android.stayontime.MainChoice	1
com.bits.android.stayontime.OpponentSurfaceView	3
com.bits.android.stayontime.OpponentSurfaceView.DrawThread	1
com.bits.android.stayontime.OwnSurfaceView	2
com.bits.android.stayontime.OwnSurfaceView.ProcessDataThread	1
com.bits.android.stayontime.Prof_choice	1
com.bits.android.stayontime.Prof_choice.Connect	2
com.bits.android.stayontime.Prof_slot	1
com.bits.android.stayontime.Prof_view_message	1
com.bits.android.stayontime.Prof_view_message.Connect	1
com.bits.android.stayontime.Send_message	2
com.bits.android.stayontime.Send_message.Connect	2
com.bits.android.stayontime.Send_message.Connect1	1
com.bits.android.stayontime.SplashScreen	2
com.bits.android.stayontime.VideoChatApplication	2
com.bits.android.stayontime.View_booked	1
com.bits.android.stayontime.View_booked.Connect	1
Total	
Average	0.45

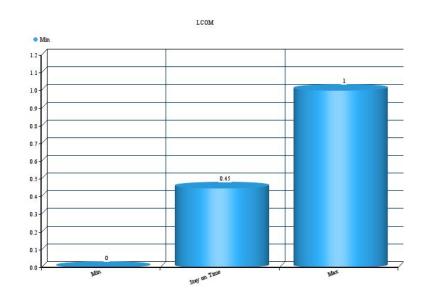




#### **Lack of Cohesion in Methods**

Threshold: 0 - 1

• Stay on Time : 0.45





## **Summary for Stay on Time**

Metric	Value	Stay on Time	
WMC	6.77	Low,less complex	
DIT	5.4	Medium,not so complex	
СВО	6.2	Medium,moderately modular	
LCOM	0.45	Low,less complex	
RFC	16.25	Low,testing and maintenance is easy	
NOC	1.4	Low,Easy to test and less reuse	



## **Thank You!**

Queries???

