Remove the “M” from MVC

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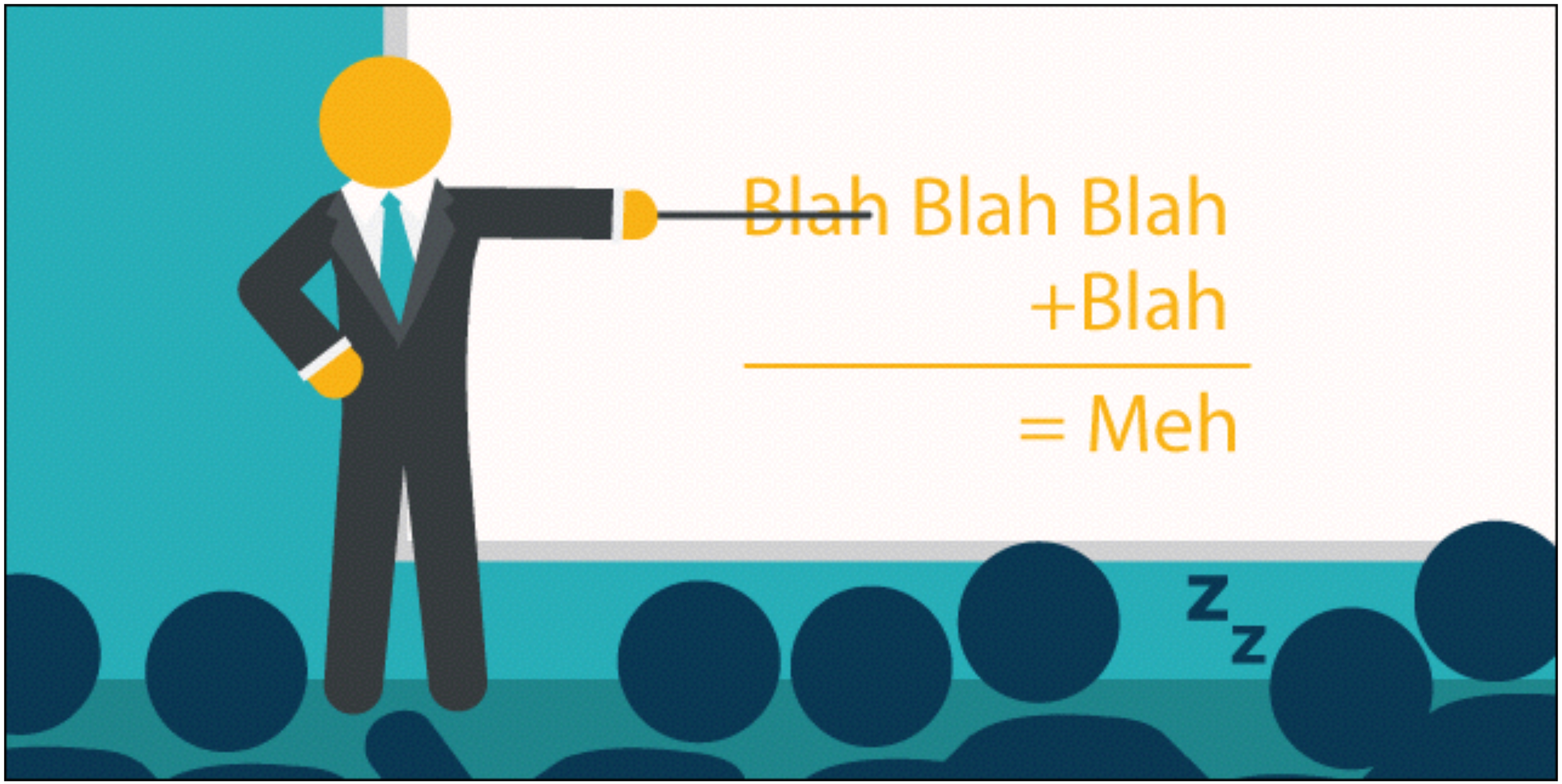
About Me

- I'm old (compared to you)
- Coding forever (>30 years)
- Professionally since 1986
- Consulting since 1991
- Riot since 2008 (we're hiring)
- Languages
  - RPG II, III, 400 [1986]
  - Smalltalk [1992]
  - Java [1996]
  - HTML/Javascript/CSS [2002]
  - Flex/AIR [2007]
  - iOS/Android [2012]
  - C++/Go [2015/2016]
- Sharing
  - brax.tv

Objectives


Blah Blah Blah
+Blah
= Meh
z z

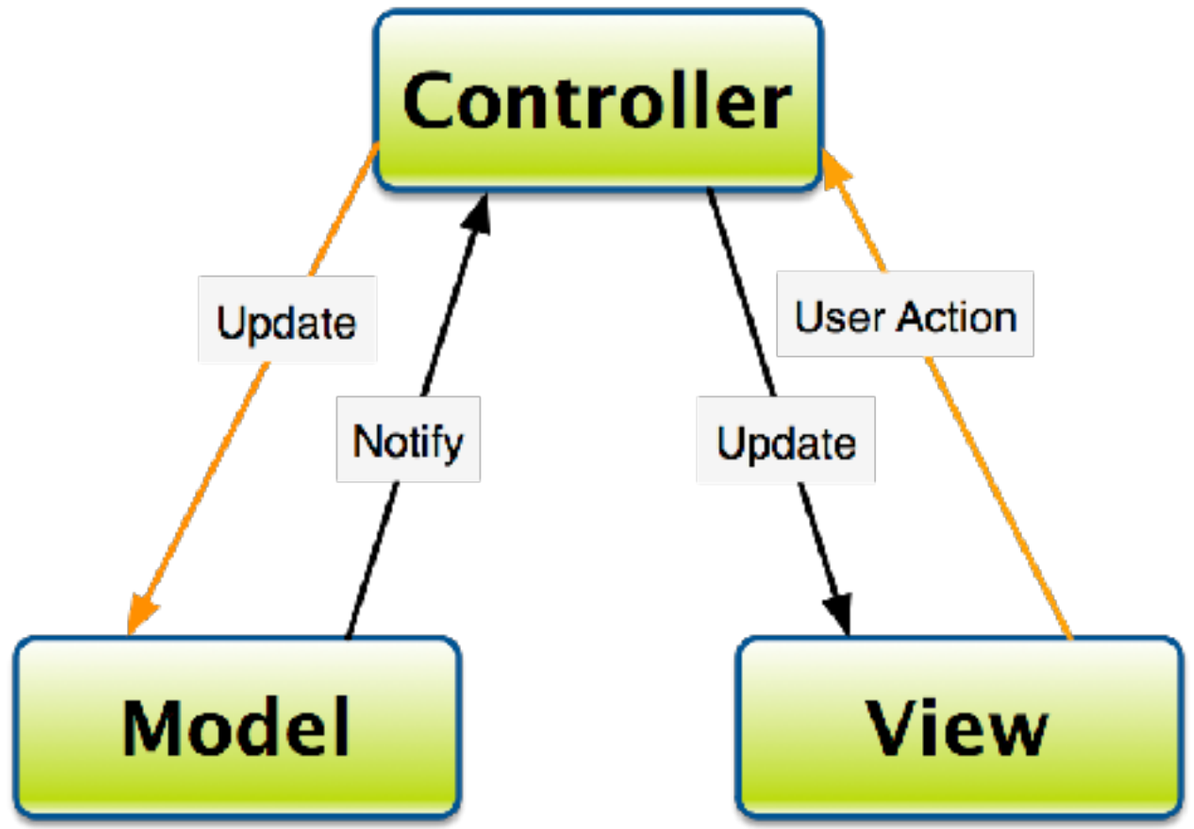
The “**M**”

as we know it

in modern **MVC**

is **unnecessary**

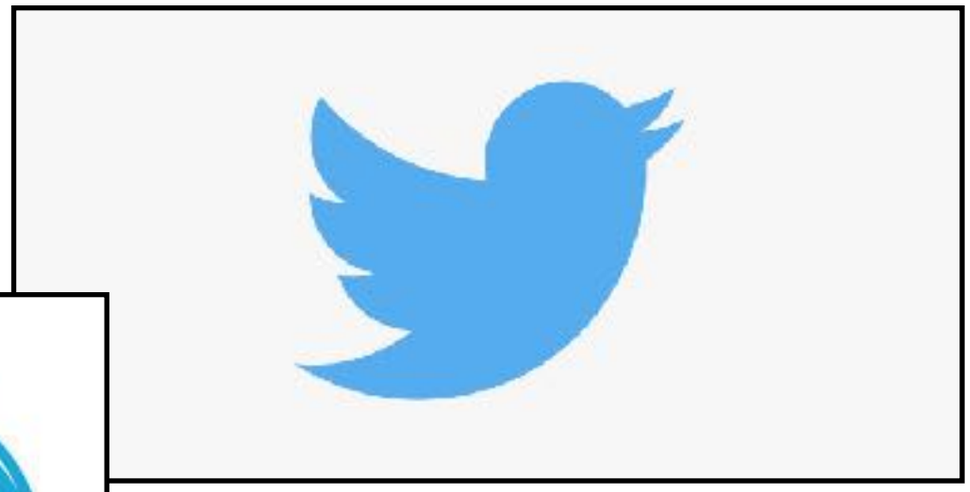
in many apps



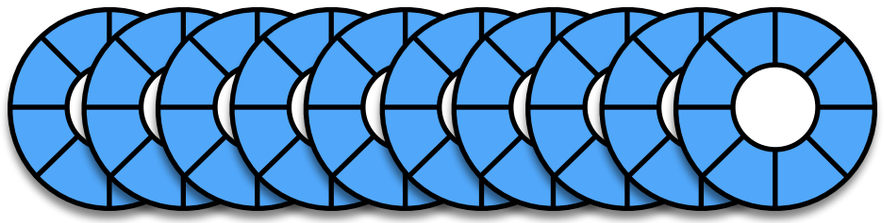
Story TIME

RIOT GAMES

2011

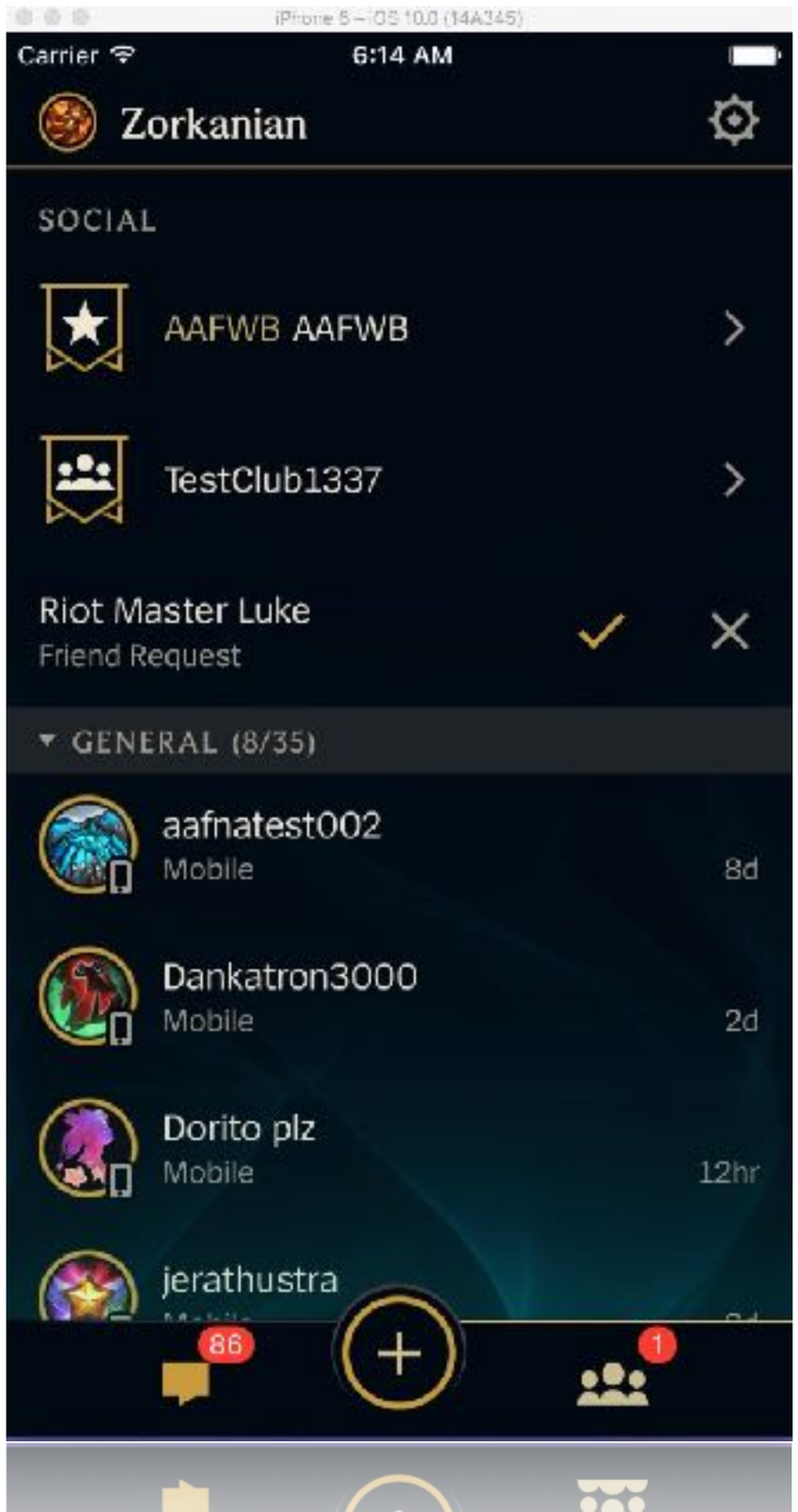


tumblr.



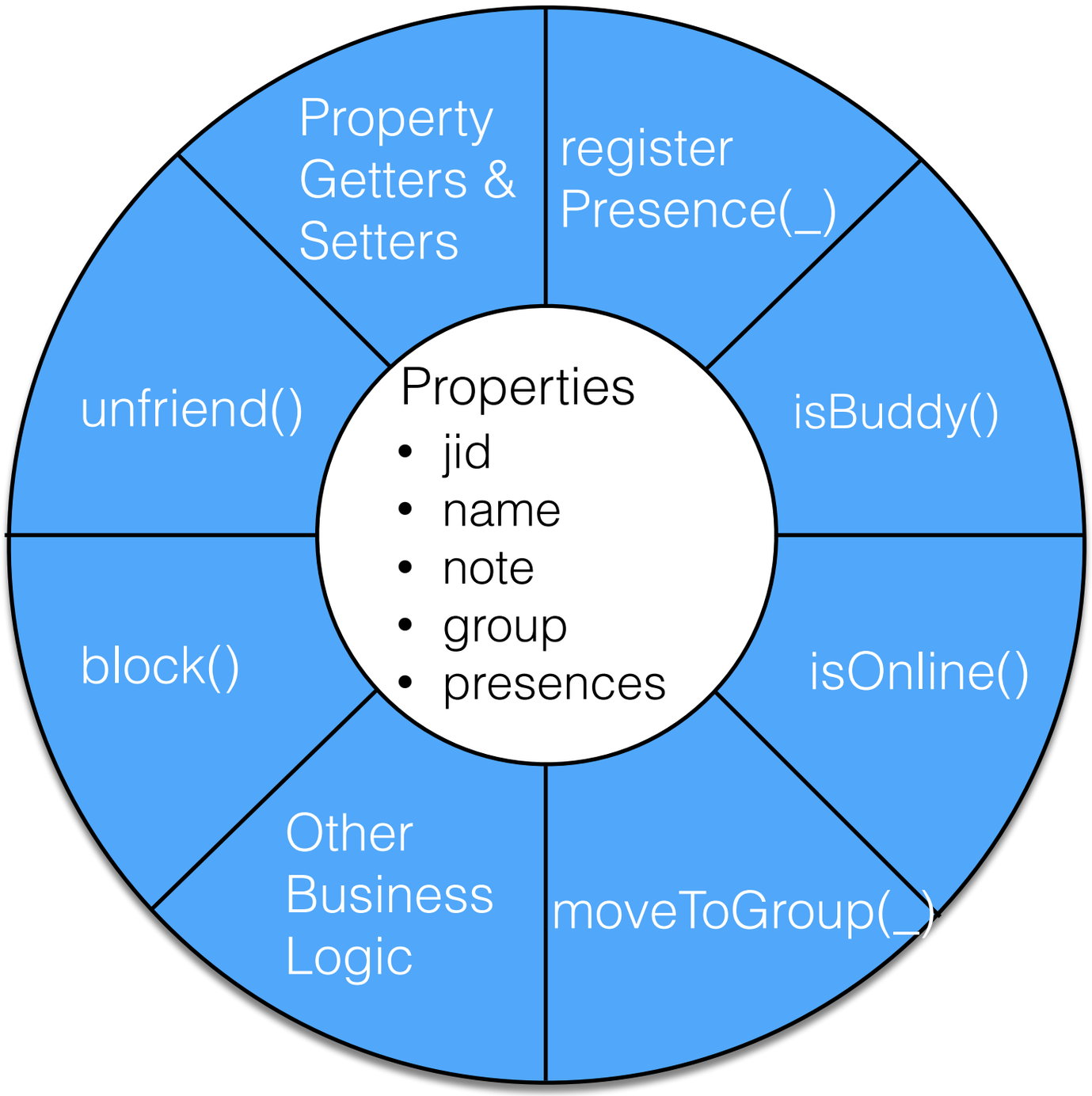
Model Objects in Memory

Lots of them….

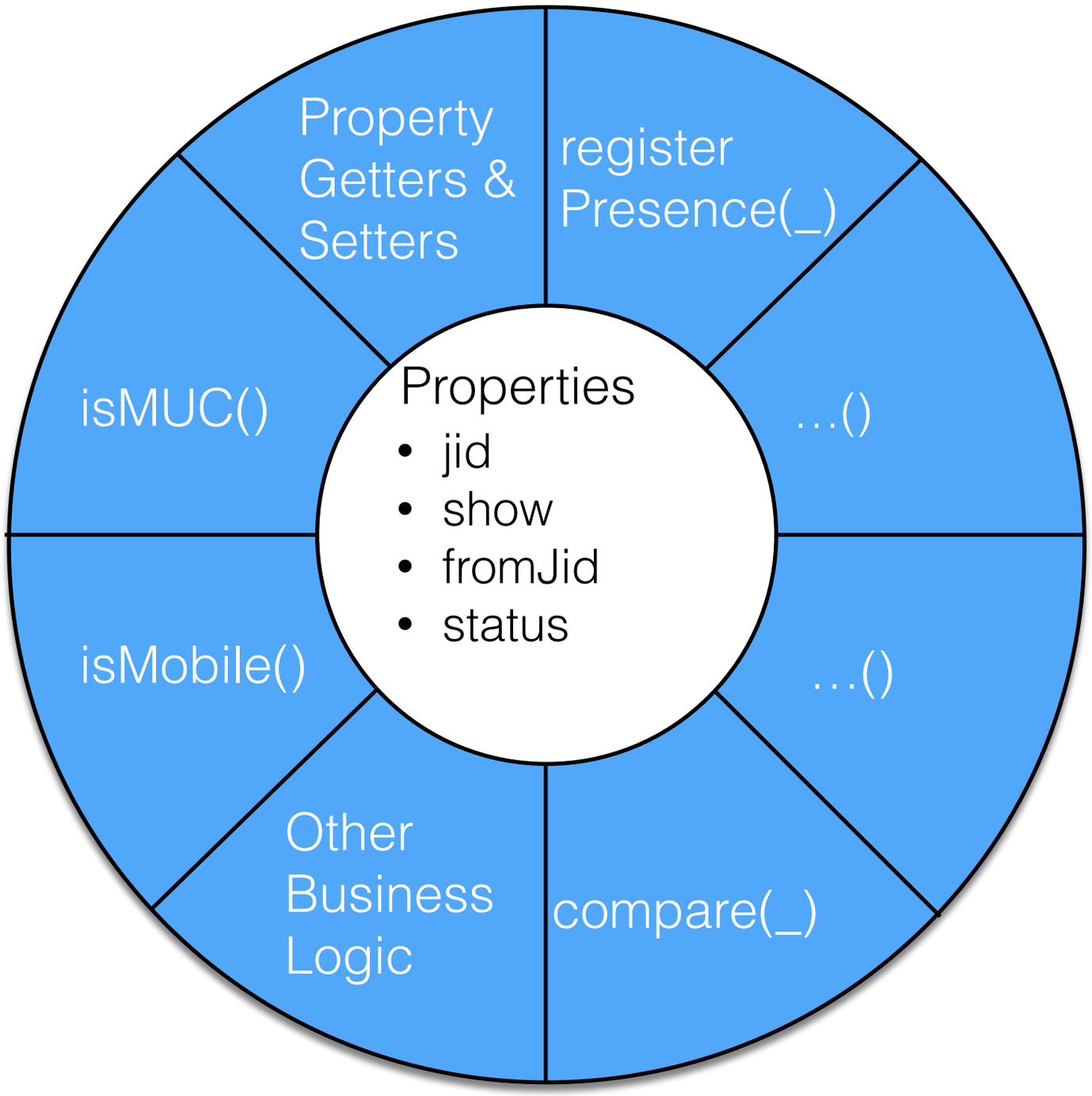


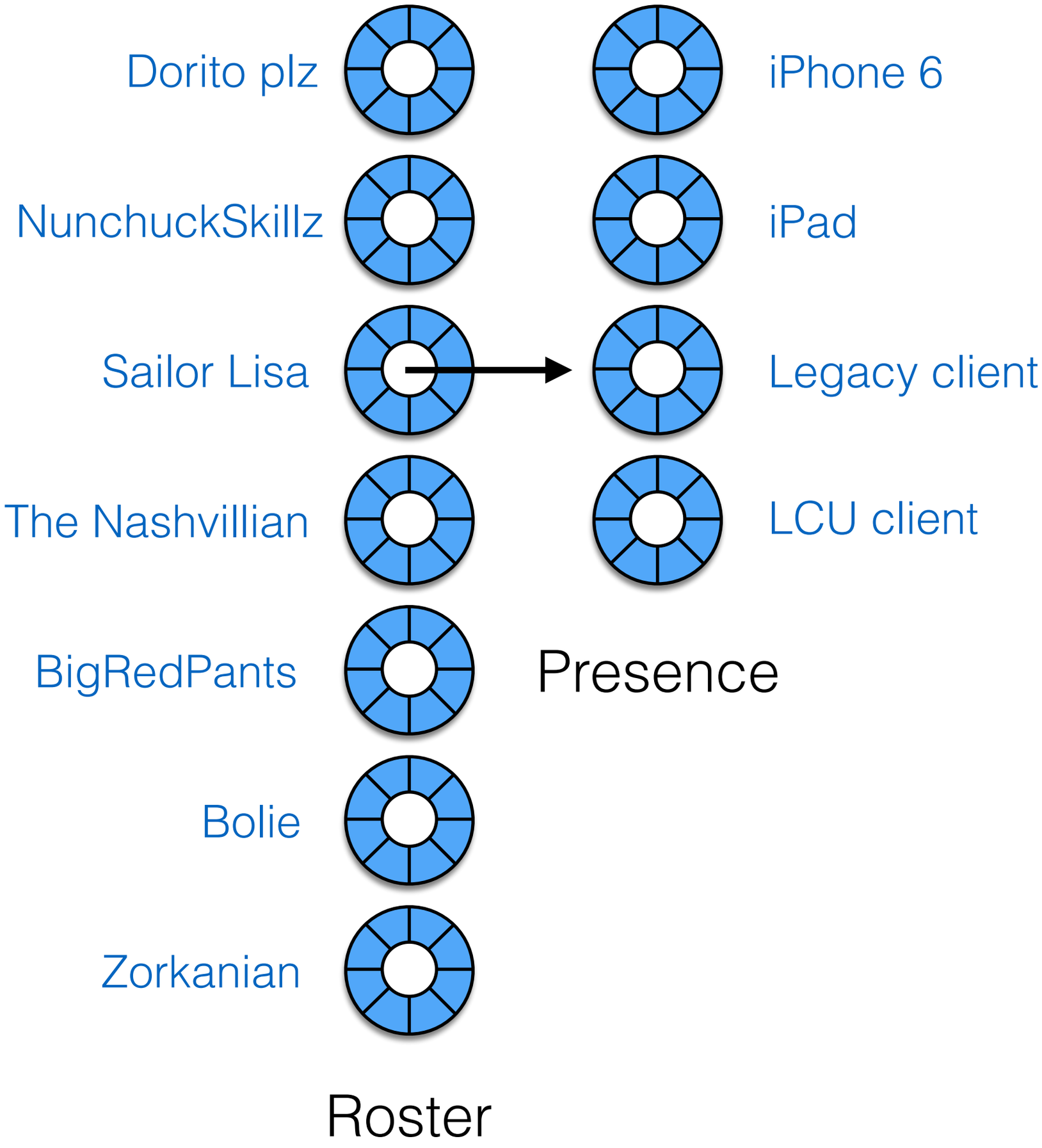
REST
XMPP

Buddy


Property Getters & Setters
register Presence(_)
unfriend()
isBuddy()
Properties
• jid
• name
• note
• group
• presences
block()
isOnline()
Other Business Logic
moveToGroup(_)

Presence


Property Getters & Setters
register Presence(_)
isMUC()
…()
Properties
• jid
• show
• fromJid
• status
isMobile()
…()
Other Business Logic
compare(_)


Dorito plz
iPhone 6
NunchuckSkillz
iPad
Sailor Lisa
Legacy client
The Nashvillian
LCU client
BigRedPants
Presence
Bolie
Zorkanian
Roster

iOS team

Android team

Google I/O 2010 - Android REST client applications

Google Developers

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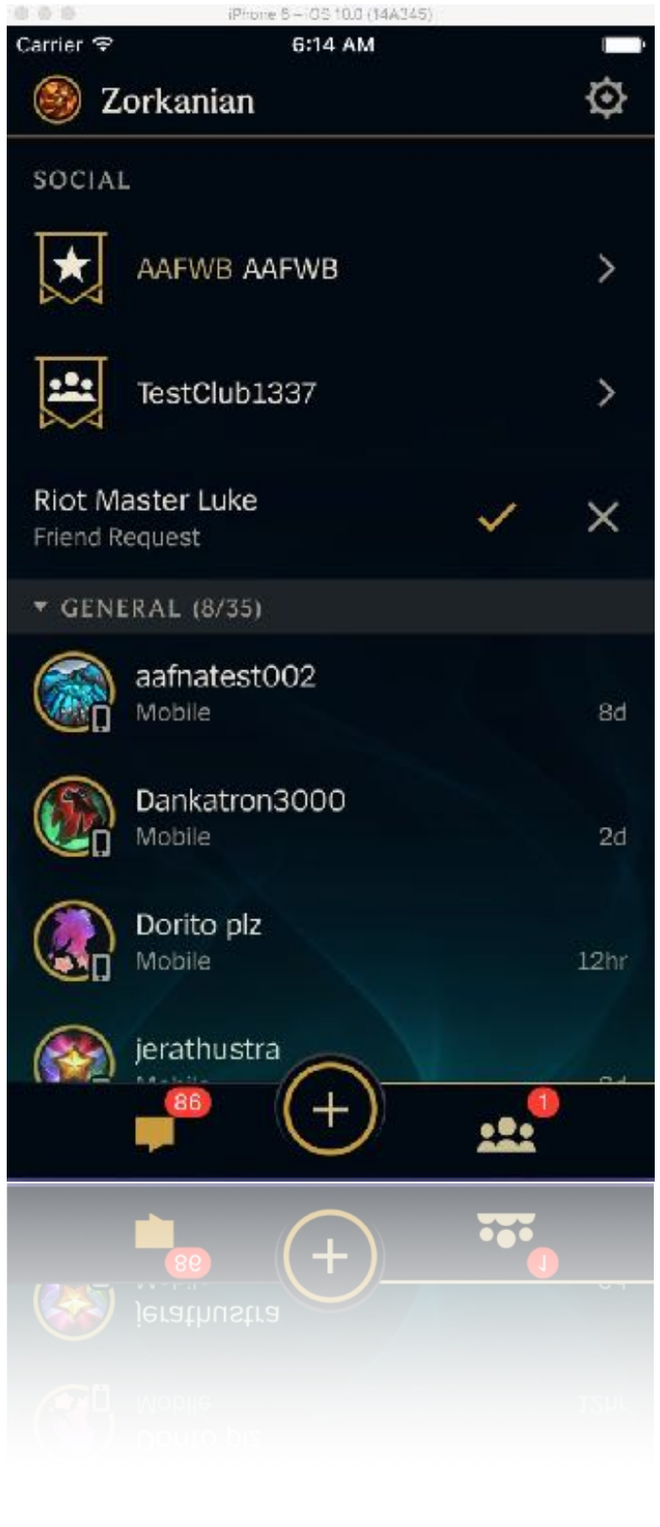
1,145 15

Key Concepts



/chat/roster

Content Resolver

Content Observer

datadragon

Content Provider

chat

Content Provider

SQL

summoner

Content Provider

Key Concepts: URI's

- **/chat/roster**
- **/chat/roster/groups**
- **/chat/roster/groups/Monday**
- **/chat/roster/groups/Monday/buddies**
- **/chat/roster/groups/Monday/buddies/BigRedPants**
- **/configuration/na/chatServer**

Key Concepts: ContentResolver

```
protocol ContentResolver {
  func insert(uri:String, values:[String, AnyObject])

  func update(uri:String,
     values:[String, AnyObject],
     selection: String? = nil)

  func delete(uri:String, selection:String? = nil)

  func query(uri:String,
     projection: [String]? = nil,
     selection: String? = nil,
     grouping: [String]? = nil,
     groupSelection: String? = nil,
     sort: String? = nil) -> ResultSet

  func addContentObserver(uri:String, Notification->Void)
  func removeContentObserver(uri:String, Notification->Void)
}
```

Key Concepts: Projection

jid	name	note	group	is_online
sum123@pvp.net	Sailor Lisa	Plays Annie	Monday	FALSE
sum345@pvp.net	Bolie	Jungler	Work	TRUE
sum111@pvp.net	BigRedPants	Jeff Robbins	Work	TRUE
sum289@pvp.net	Zorkanian	Bob Smith	Ranked	FALSE
sum942@pvp.net	Dorito Plz	Nick	Monday	TRUE
sum822@pvp.net	GambleDt	Gabriel	Work	FALSE
sum033@pvp.net	Nunchuckskillz	Andy	Ranked	TRUE

Key Concepts: Selection

jid	name	note	group	is_online
sum123@pvp.net	Sailor Lisa	Plays Annie	Monday	FALSE
sum345@pvp.net	Bolie	Jungler	Work	TRUE
sum111@pvp.net	BigRedPants	Jeff Robbins	Work	TRUE
sum289@pvp.net	Zorkanian	Bob Smith	Ranked	FALSE
sum942@pvp.net	Dorito Plz	Nick	Monday	TRUE
sum822@pvp.net	GambleDt	Gabriel	Work	FALSE
sum033@pvp.net	Nunchuckskillz	Andy	Ranked	TRUE

Key Concepts: Sort

jid	name	note	group	is_online
sum123@pvp.net	Sailor Lisa	Plays Annie	Monday	FALSE
sum345@pvp.net	Bolie	Jungler	Work	TRUE
sum111@pvp.net	BigRedPants	Jeff Robbins	Work	TRUE
sum289@pvp.net	Zorkanian	Bob Smith	Ranked	FALSE
sum942@pvp.net	Dorito Plz	Nick	Monday	TRUE
sum822@pvp.net	GambleDt	Gabriel	Work	FALSE
sum033@pvp.net	Nunchuckskillz	Andy	Ranked	TRUE

Combining them all

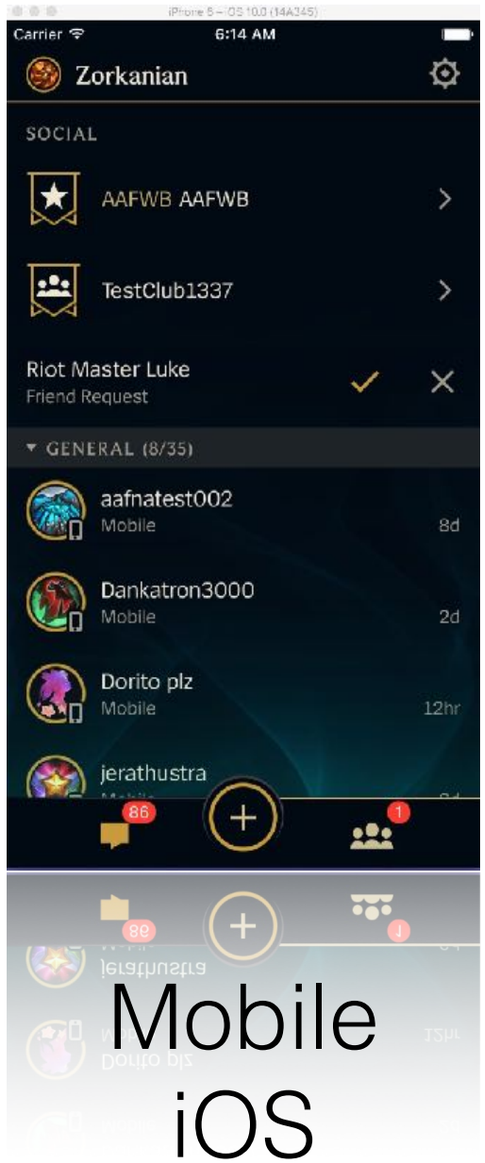
jid	name	note	group	is_online
sum123@pvp.net	Sailor Lisa	Plays Annie	Monday	FALSE
sum345@pvp.net	Bolie	Jungler	Work	TRUE
sum111@pvp.net	BigRedPants	Jeff Robbins	Work	TRUE
sum289@pvp.net	Zorkanian	Bob Smith	Ranked	FALSE
sum942@pvp.net	Dorito Plz	Nick	Monday	TRUE
sum822@pvp.net	GambleDt	Gabriel	Work	FALSE
sum033@pvp.net	Nunchuckskillz	Andy	Ranked	TRUE

Introducing the Model: The ResultSet

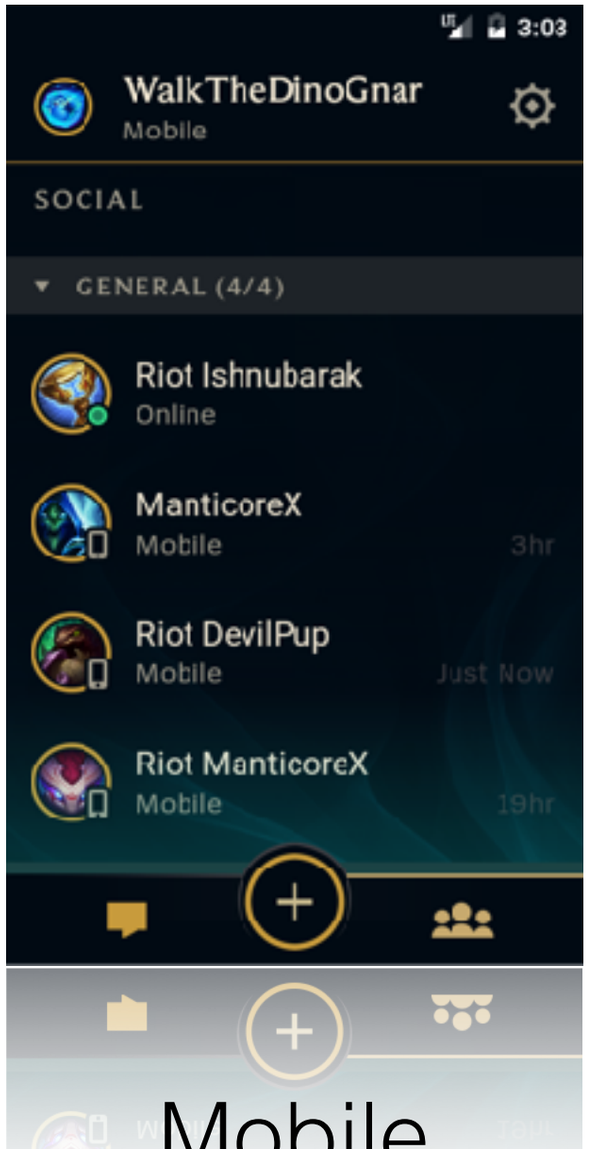
jid	name	note	group	is_online
sum123@pvp.net	Sailor Lisa	Plays Annie	Monday	FALSE
sum345@pvp.net	Bolie	Jungler	Work	TRUE
sum111@pvp.net	BigRedPants	Jeff Robbins	Work	TRUE
sum289@pvp.net	Zorkanian	Bob Smith	Ranked	FALSE
sum942@pvp.net	Dorito Plz	Nick	Monday	TRUE
sum822@pvp.net	GambleDt	Gabriel	Work	FALSE
sum033@pvp.net	Nunchuckskillz	Andy	Ranked	TRUE

- Every view has the exact same Model
- Just the data you want, in the order you want
- Works perfectly as the data source for UITable/UICollectionView

Where are we now?

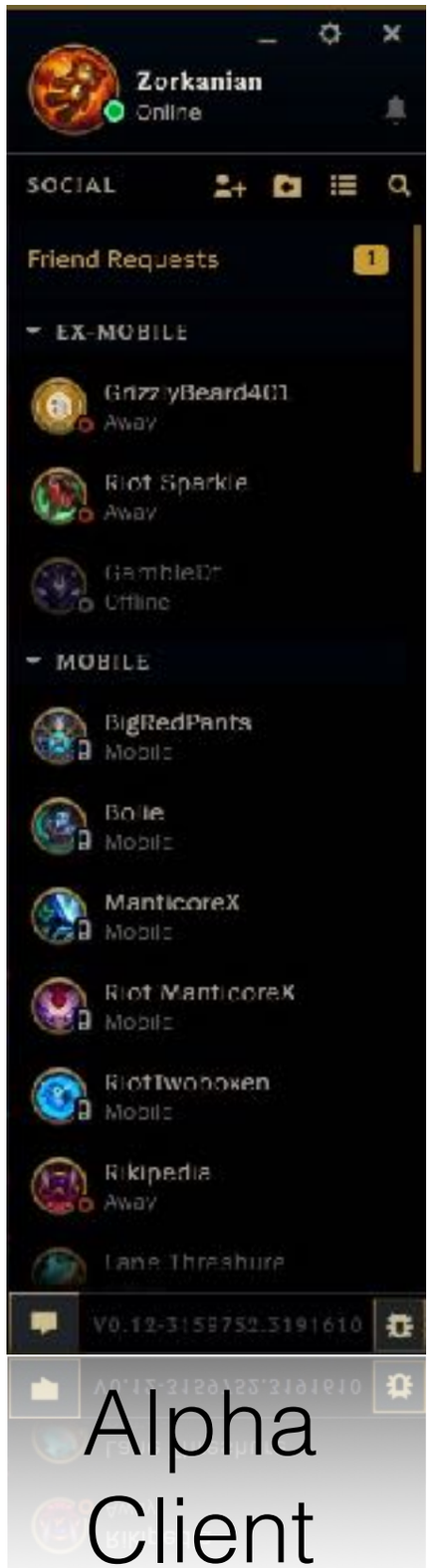


Mobile
iOS



Mobile
Android

Legacy
Client



Alpha
Client

Summary

- **Dump the traditional Model layer**
- **Favor ResultSets as your Model layer**
- **Learn SQL**
- **Employ standard techniques (RESTFUL/URI)**
- **Profit!!!**
- **Have a GREAT 360iDev conference**

References

- **Google I/O YouTube**: https://www.youtube.com/watch?v=xHXn3Kg2IQE

- **Content Provider**: https://developer.android.com/guide/topics/providers/content-provider-basics.html

- **My repo's**: https://github.com/JeffBNimble

- **Riot Engineering Blog** https://engineering.riotgames.com/news/building-cross-platform-mobile-apps

- **Me**: jeff@nimbleNogginSoftware.com, @JeffBNimble, https://github.com/JeffBNimble