

# Design Pattern Final

## Social Network Application



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**DATE:2012.06.25**

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# Outline



- Introduction
- API connection
- Pattern Implementation and Demo
- Future Work

# Introduction



- The potential of Social Network is intriguing!
- New and interesting interactions merge between people
  - Like
  - Fan Page
  - Group
  - Retweet
  - ...

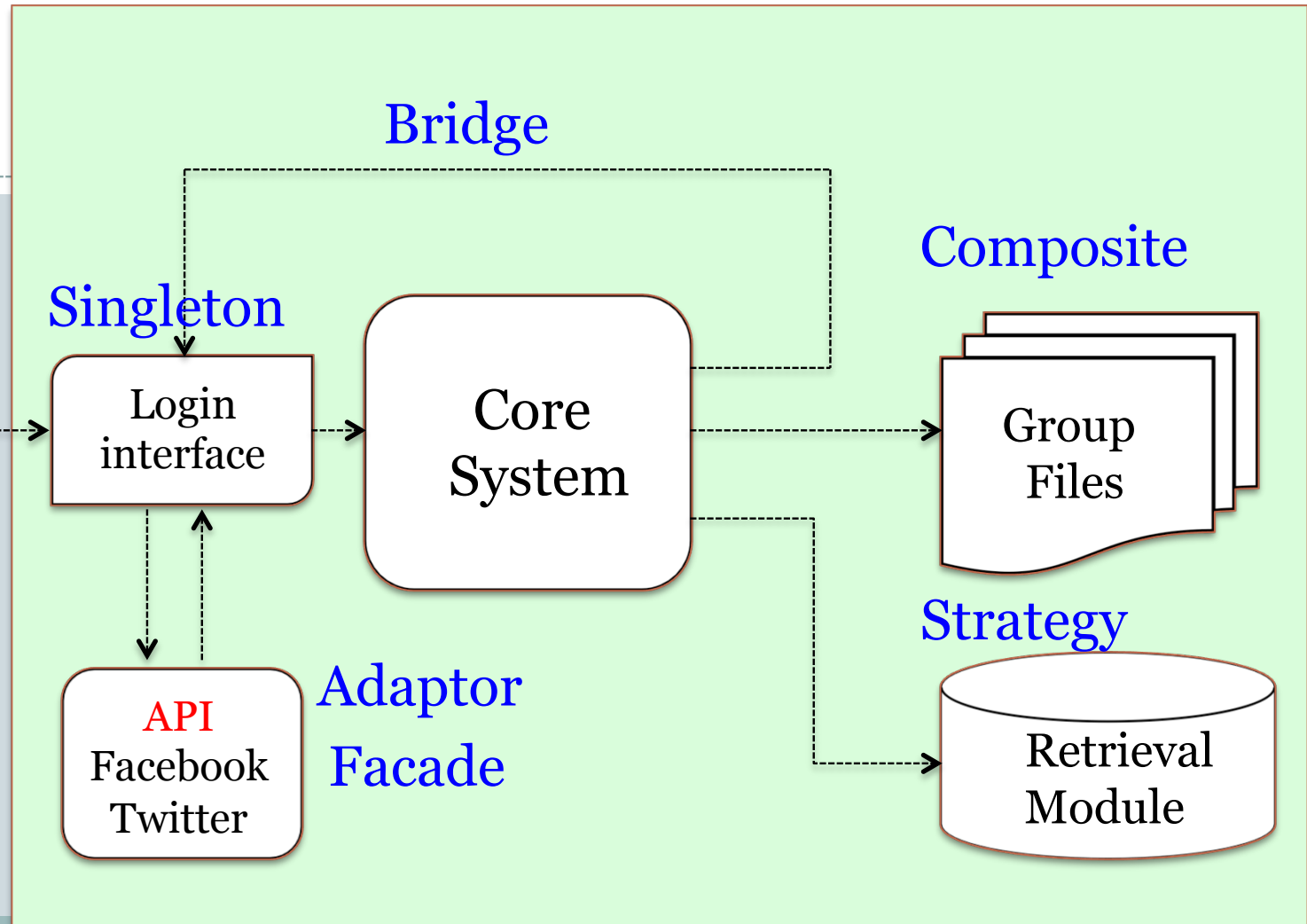


# Introduction



- This provide us a new way to analyze people's behaviors and interactions
- In this project we try parse user information through APIs, and implement some application using Design Patterns learned in class

# Framework



# API Connection



- Tool: python-twitter API, pyfacebook API
  - OAuth Authentication
  - Parsed data format
- Dataset: Twitter, Facebook



# API Connection



- Data content
  - Twitter (easy to parse)
    - ✦ User status: create time, language, description..
    - ✦ Relationship: friends, followers, following...
    - ✦ Tweet: text, created time, hyperlink, retweet...
  - Facebook (hard to parse)
    - ✦ User status: male, language, description..
    - ✦ Relationship: friends, group, fan page...
    - ✦ Words: text, like, Reply...

# Pattern Implementation



- Façade and Adapter Pattern
- Bridge Pattern
- Composite Pattern
- Singleton Pattern

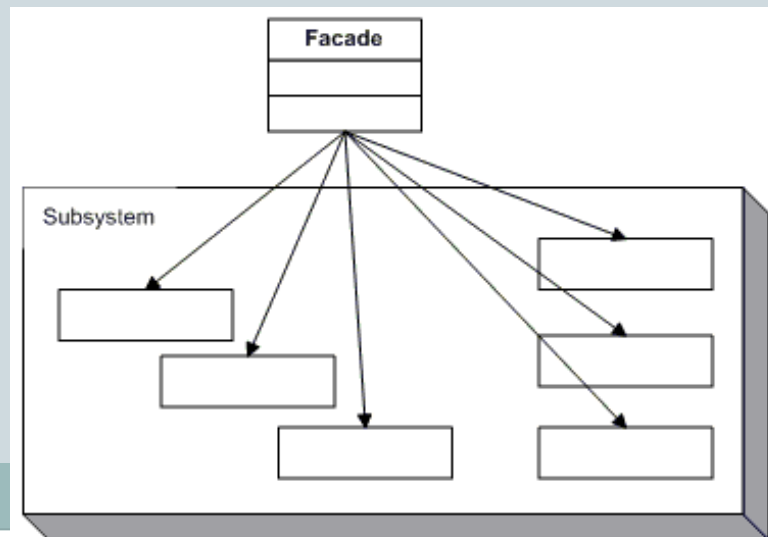


# Pattern Implementation



- **Façade and Adapter Pattern**

- Different parsed data are stored in different format within one API
- Here we adopt Adapter to deal with each storing format. Façade Pattern is also used to arrange these in a black box



# Pattern Implementation



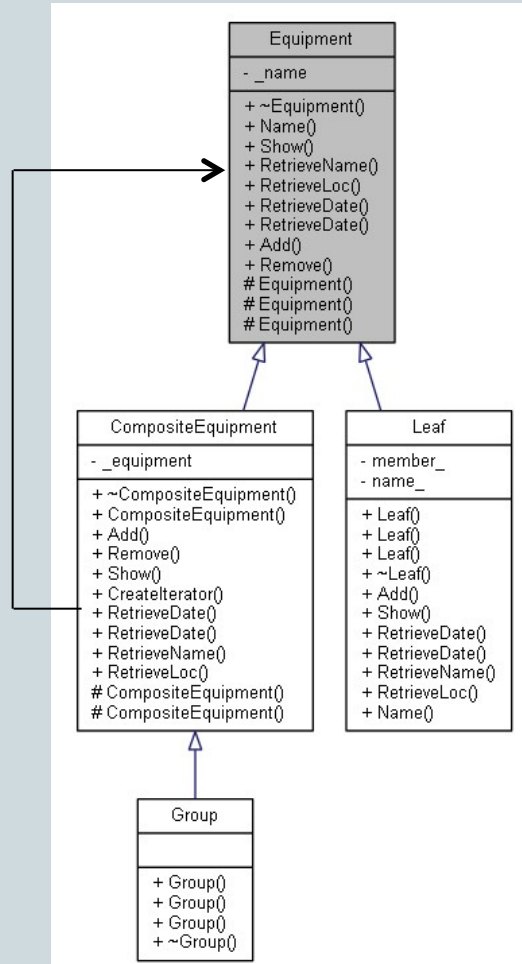
- Singleton
- Group (Composite)
- Retrieval(Template)
- Interface (Bridge)



Adele  
Barack Obama  
Britney Spears  
Coldplay  
David Tao  
Elva Hsiao  
Emma Watson  
Eric Lan  
Jason Mraz  
Jolin Tsai  
Kai-Fu Lee  
Lady Gaga  
Laura Rademaker  
LeBron James  
Maroon 5  
Pau Gasol  
Rihanna  
Stanley Chang  
Taylor Swift  
The New York Times  
Tom Hanks  
Yao Ming  
\_JeremyRenner  
田村淳

from the

# Group (Composite)



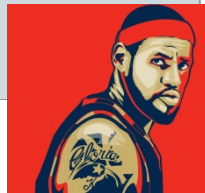
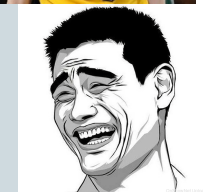
**Singer**



**Politics**



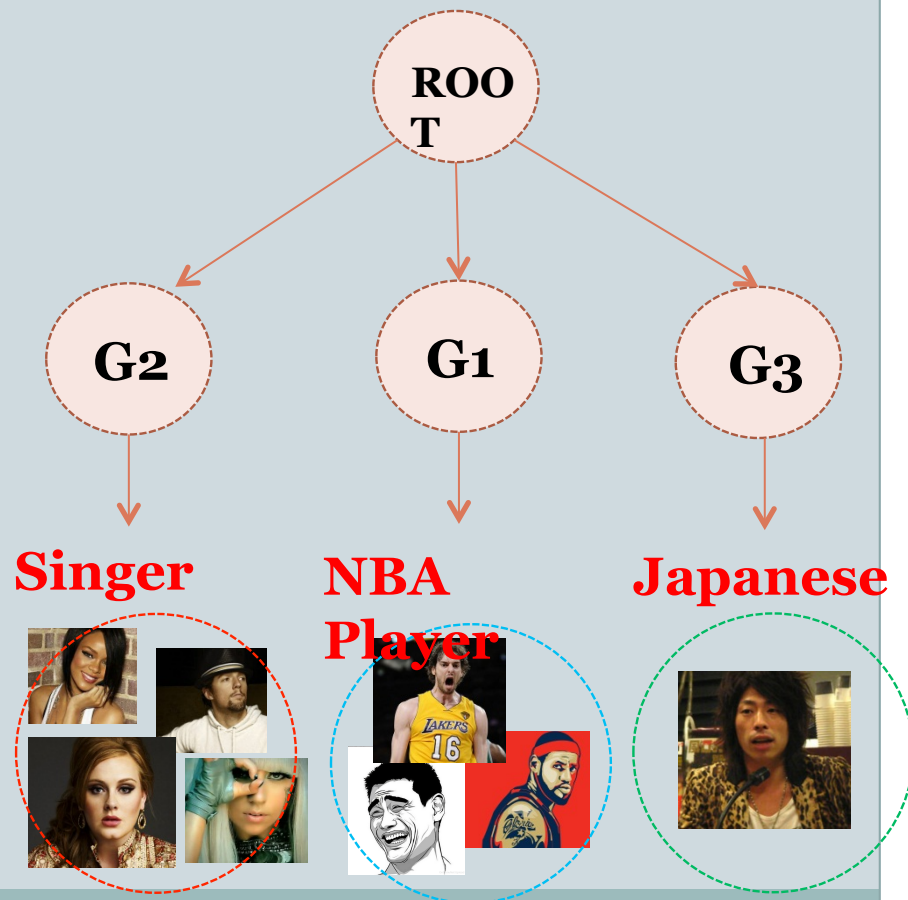
**NBA Player**



# Group (Composite)

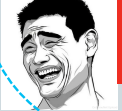
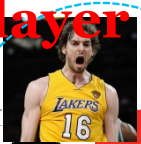
```
Twitter* tw = Twitter::Instance("eddy", "*****");  
Facebook* fb = Facebook::Instance("snout_superman@hotmail.com", "*****");
```

```
Group* g = new Group ("top") ;  
Group* g1 = new Group ("Singer") ;  
Group* g2 = new Group ("NBA Player") ;  
Group* g3 = new Group ("Japanese") ;  
Leaf* l1 = new Leaf("NBA Player");  
Leaf* l2 = new Leaf("Singer");  
Leaf* l3 = new Leaf("Japanese");  
  
l1->Add(tw->getPerson("LeBron James"));  
l1->Add(tw->getPerson("Yao Ming"));  
l1->Add(tw->getPerson("Pau Gasol"));  
l3->Add(tw->getPerson("田村淳"));  
l2->Add(tw->getPerson("Jason Mraz"));  
l2->Add(tw->getPerson("Lady Gaga"));  
l2->Add(tw->getPerson("Rihanna"));  
l2->Add(tw->getPerson("Adele"));  
  
g1 ->Add(l1);  
g2 ->Add(l2);  
g3 ->Add(l3);  
g->Add(g1);  
g->Add(g2);  
g->Add(g3);
```





# NBA Player



g1->Show(5);

## Group (Composite)



-----NBA Player-----

-----LeBron James-----

20120622 It's still so surreal! Don't wake me up from this feeling <http://t.co/yrbXrTNU>

20120622 OMFG I think it just hit me, I'm a CHAMPION!! I AM a CHAMPION!!

20120622 I love you guys. This was for you <http://t.co/mWfhs8EL>

20120428 Thanks to my fans for the support all season. Newly redesigned, I dedicate it to you guys <http://t.co/eTSMNfHG>

20120427 Been waiting all season to wear these. The Elite 9s <http://t.co/eTSMNfHG>

20120427 RT @LeBronJamescom: S/o #sleepsheets for the great shut eye..ha <http://t.co/H8jD7CzB> &ldquo;@

20120427 Got mine for playoffs RT @serenawilliams: Finally, my new natural sleep aid, #SleepSheets are now

20120426 I really just felt like a fish in the smallest fish bowl ever!! Smh

20120424 Love my AirMax 2012 #swag <http://t.co/97J5MDHf>

20120424 RT @LittleBurger: SouthBeach Hov cc @kingjames <http://t.co/uHU6SVb4>(Big Homie Swag!!)

-----Yao Ming-----

20120427 Thank you to Baccarat and Pernod Ricard for your donation to my foundation. The dinner was very e

20120226 Vote for Budinger #SpriteSlam

20120226 Budinger #SpriteSlam

20120226 Getting ready to vote Budinger #SpriteSlam

20120222 Looks like Chase has an interesting dunk for the contest. Funny guy! <http://t.co/xOBpuC5B>

20120216 I'm excited to see my former teammate @CBudinger in the Dunk Contest. I've seen it. Chase can fly

20120126 At the taping of the Chinese Lunar New Year television special <http://t.co/zsB2PIQS>

20120104 I am on the 2012 cover issue of GQ China <http://t.co/U0l716B2>

20111129 Happy that the website <http://t.co/z8pfUE9M> and twitter page has launched for @YaoFamilyWines

20111128 Very happy that my first bottle of wine helped raise 150,000 RMB (about \$20,000) for Special Olym

-----Pau Gasol-----

20120624 Congrats to Fernando Alonso for the great win and race today in Valencia! Our sports are going th

20120624 Realmente nuestro deporte estÃ; en un momento alucinante! Muchas felicidades a @alo\_oficial por

20120624 IncreÃ-ble la remontada de @alo\_oficial !! Queda mucho pero esto pinta muy bien! #VamosFer

20120624 Great time last night with the family celebrating the holiday of Sant Joan! Lots of fireworks! ht

20120624 Us deixo una foto de la revetlla q vam gaudir ahir nit en famÃ-lia! Una festa q sempre intentem p

20120624 Os deixo una foto de la verbeno q disfrutamos ayer en familia! Siempre q podemos pasamos esta fies

20120624 I like them all! Thanks for sharing! RT"@Ilarria77863446: @PaulaLee7 @paugasol #IFollowPauGasol w

20120623 Great win by Spain 2-0 against France in the quarterfinals of the Eurocup! Next opponent Portugal

20120623 Doblete de @XabiAlonso y pase a semifinales!!! QuÃ© manera de celebrar sus 100 partidos con la se

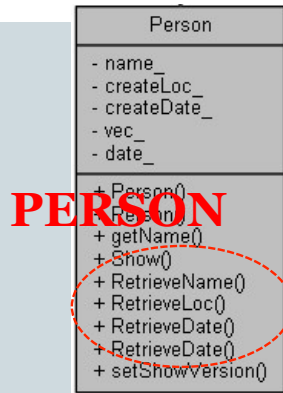
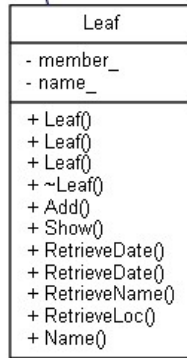
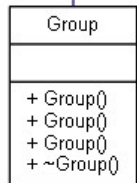
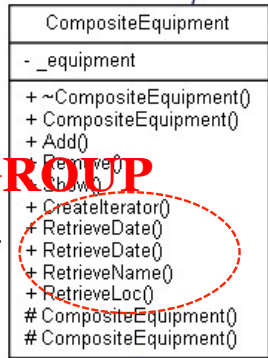
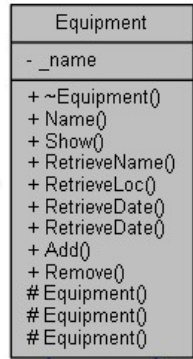
20120623 Spain 1 France 0! Amazing play finished by Xabi Alonso with the header!! #VAMOS

# Pattern Implementation



- Singleton
- Group (Composite)
- Retrieval
  - Name
  - Date
  - Keywords
  - Location
- Interface (Bridge)

# Retrieval



**NBA Player**

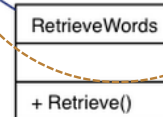
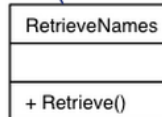
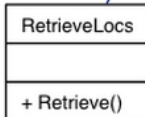
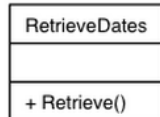
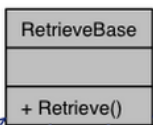
**Location**



**DATE**

**NAME**

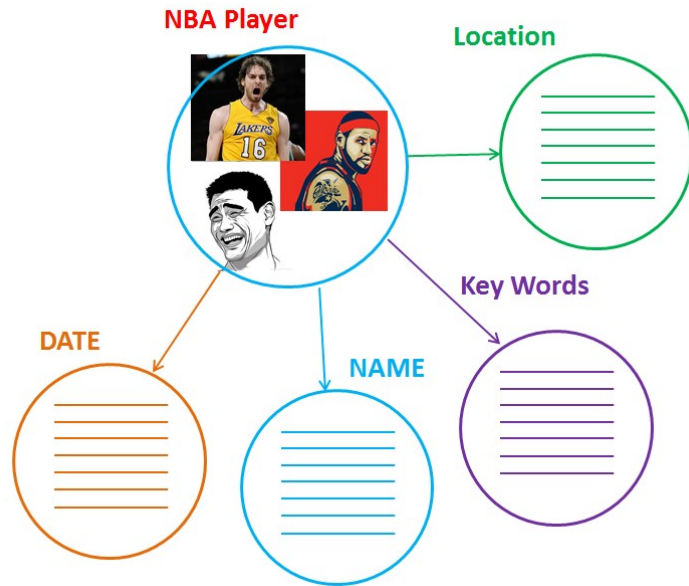
**Key Words**





# Retrieval

```
g1->RetrieveName("LeBron James");
g3->RetrieveName("田村淳");
g1->RetrieveDate(20120403,20120420);
g1->RetrieveKeyWord("http://");
g2->RetrieveName("Adele");
```



-----NBA Player-----

-----LeBron James-----

```
20120419 Best of luck to @JonnyBones this weekend! I'll
20120419 Now @ernieramos at it! #teaminshape http://t.co
20120419 @PUREAshleyMV @SavannahRB She better not hit me
20120419 Laila Ali Jr working out #Swag @savannahrb htt
20120419 Up super early! Boys school day http://t.co/jRl
20120418 Preparing for tonight already in progress http://t.co
20120418 Always up to something RT @LeBronJamescom: Snuc
20120418 Love and s/o to the AMAZING Pat Summitt! What s
20120418 The James Gang! http://t.co/012gojxm
20120417 Griffrey JR swag tonight! http://t.co/arua7ZlP
20120416 Tupac at Coachella is crazy, dope and sends chi
20120410 #NP Big Krit-Boobie Miles. He go in!
20120410 RT @SavannahRB: I wanna go to the movies but SO
20120409 Easter Dinner is served! #Itsgoingdown http://t.co
20120408 I mean I had to for Easter. Right!? http://t.co
20120408 Happy B-day to my homie @_Cee1.
20120408 RT @fwalker03: S/O to all the mothers who don't
20120408 Happy Easter Everyone!! Enjoy this beautiful Su
20120408 @MARLONLWAYANS Yes sir! No doubt
20120408 RT @JayTrice: @KingJames Sock/Shoe game crazy t
20120408 I wanna act. Like in a comedy or something in t
20120408 Shoe/Sock game crazy tonight!! http://t.co/D2kE
20120408 Great movie and funny as he**!! S/O @itsgabriel
20120408 Just checked out "Think Like A Man". Make sure
20120406 Man I just carried my 2 boys up to their room f
20120405 @1MK2 Yes Sir!! LaFamilia
```

-----Yao Ming-----

-----Pau Gasol-----

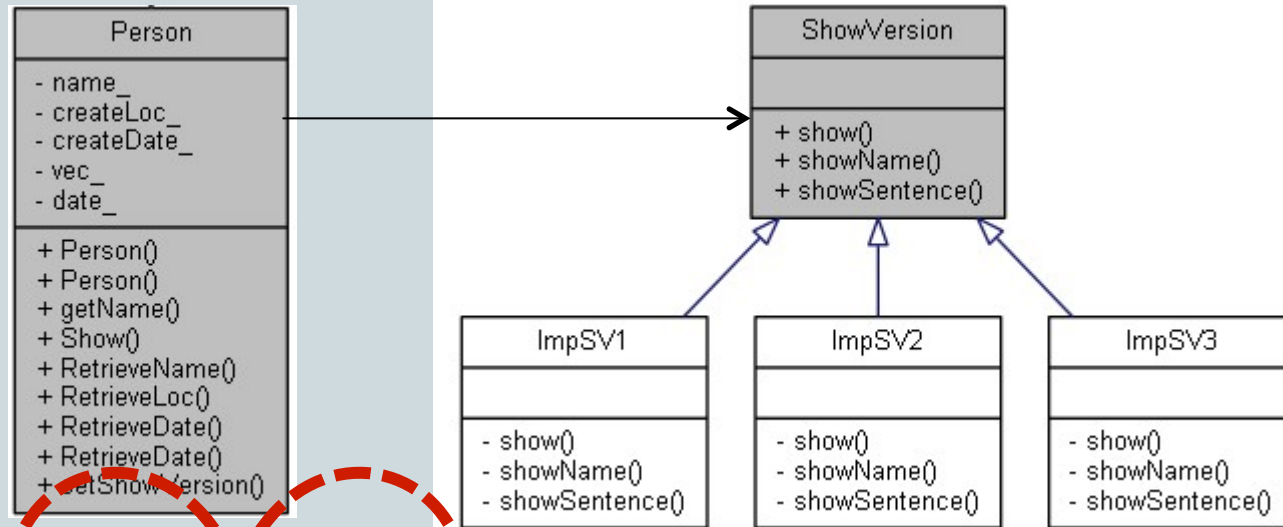


# Pattern Implementation



- Singleton
- Group (Composite)
- Retrieval (Strategy)
- Interface (Bridge)

# Interface (Bridge)



***Provide Different  
Interface***

# Interface (Bridge)



```
tw->getPerson("Adele")->Show();  
tw->getPerson("Adele")->setShowVersion("v3");  
tw->getPerson("Adele")->Show();
```



```
-----Adele-----  
20110617 Adele announcement regarding the cancellation of remaining  
20110617 Announcement regarding some upcoming tour dates http://t.co  
20110617 THE CIVIL WARS... Read more from Adele on her new blog post  
20110617 UNORTHODOX... Read more from Adele on her new blog post her  
20110617 YESSSSSS!... Read more from Adele on her new blog post here  
20110617 Check out the latest episode of "Tea Time" & find out some  
20110617 Adele celebrates @RecordStoreDay on April 16 in the U.S. wi  
20110617 Adele's Webstore Launches April 4th - http://t.co/0zCVNet  
20110617 Download Adele's "Make You Feel My Love" on @iTunesMusic #S  
20110617 IMPOSSIBLE... Read more from Adele on her new blog post her  
20110617 RT @VH1: Watch @OfficialAdele's #VH1Unplugged performance A  
20110427 @selenagomez http://twitpic.com/4qaxve - So beautiful
```

```
----LOVE----Adele----LOVE----  
20110617 Adele announcement regarding the cancellation of remainin  
20110617 Announcement regarding some upcoming tour dates http://t.co  
20110617 THE CIVIL WARS... Read more from Adele on her new blog po  
20110617 UNORTHODOX... Read more from Adele on her new blog post h  
20110617 YESSSSSS!... Read more from Adele on her new blog post he  
20110617 Check out the latest episode of "Tea Time" & find out som  
20110617 Adele celebrates @RecordStoreDay on April 16 in the U.S.  
20110617 Adele's Webstore Launches April 4th - http://t.co/0zCVNet  
20110617 Download Adele's "Make You Feel My Love" on @iTunesMusic  
20110617 IMPOSSIBLE... Read more from Adele on her new blog post h  
20110617 RT @VH1: Watch @OfficialAdele's #VH1Unplugged performance  
20110427 @selenagomez http://twitpic.com/4qaxve - So beautiful  
20110423 @MileyCyrus That's great!  
20110421 Twitter picture. http://twitpic.com/4npj3w  
20110421 UNORTHODOX... Read more from Adele on her new blog post h  
20110421 YESSSSSS!... Read more from Adele on her new blog post he  
20110421 Check out the latest episode of "Tea Time" & find out som  
20110421 Adele celebrates @RecordStoreDay on April 16 in the U.S.
```

# Future Work



- Make User Interface more exquisite
- Install an recommender system
- Review Design Patterns
- Enjoy summer vacation



Thank You