Application Development & Modelling

BSc in Applied Computing

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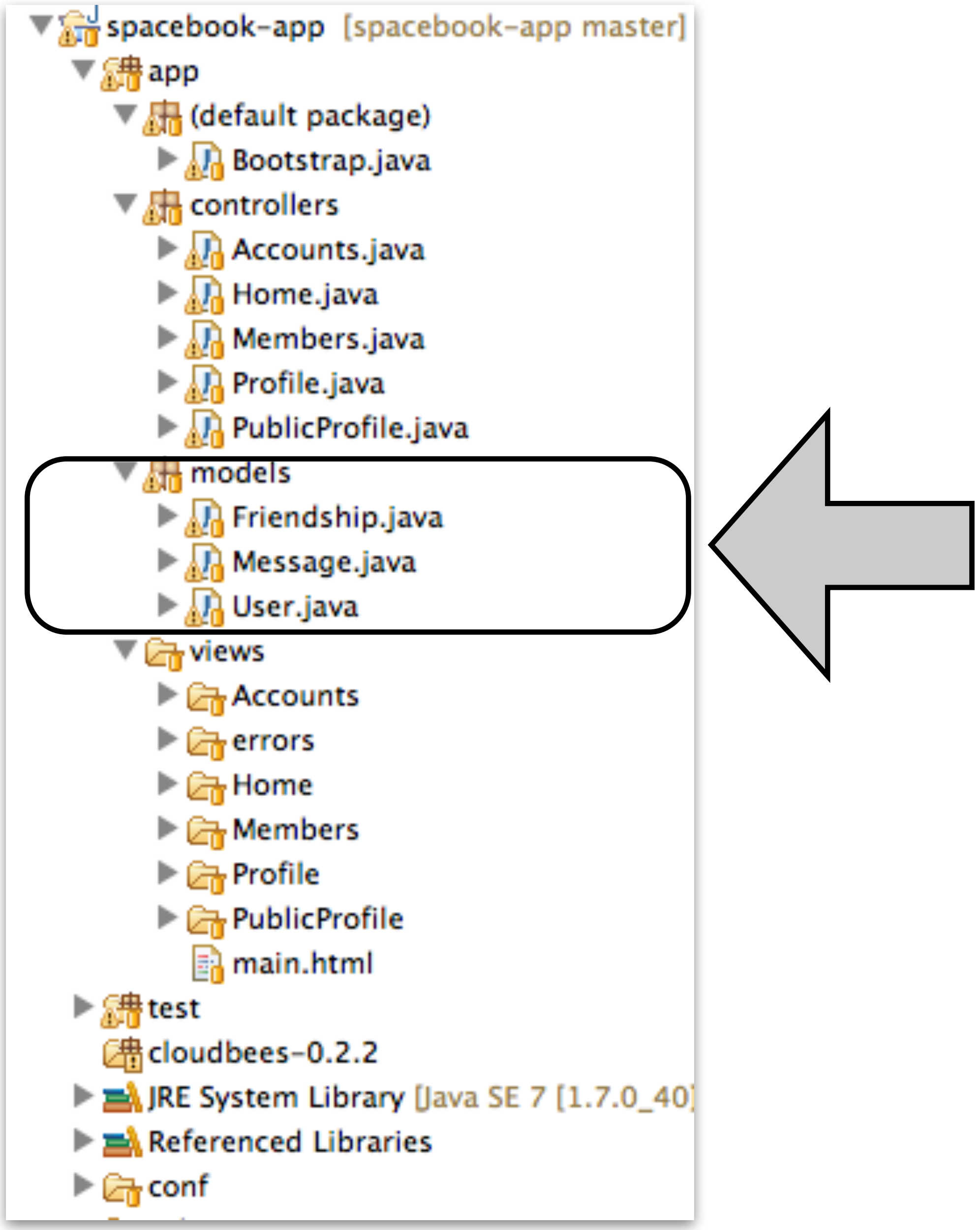
eLearning support unit

Spacebook Models

Models



```
▼ spacebook-app [spacebook-app master]
  ▼ app
    ▼ (default package)
      ▶ Bootstrap.java
    ▼ controllers
      ▶ Accounts.java
      ▶ Home.java
      ▶ Members.java
      ▶ Profile.java
      ▶ PublicProfile.java
    ▼ models
      ▶ Friendship.java
      ▶ Message.java
      ▶ User.java
    ▼ views
      ▶ Accounts
      ▶ errors
      ▶ Home
      ▶ Members
      ▶ Profile
      ▶ PublicProfile
        main.html
  ▶ test
    cloudbees-0.2.2
  ▶ JRE System Library [Java SE 7 [1.7.0_40]
  ▶ Referenced Libraries
  ▶ conf
```

- Any information that must be ‘remembered’ will be part of the model

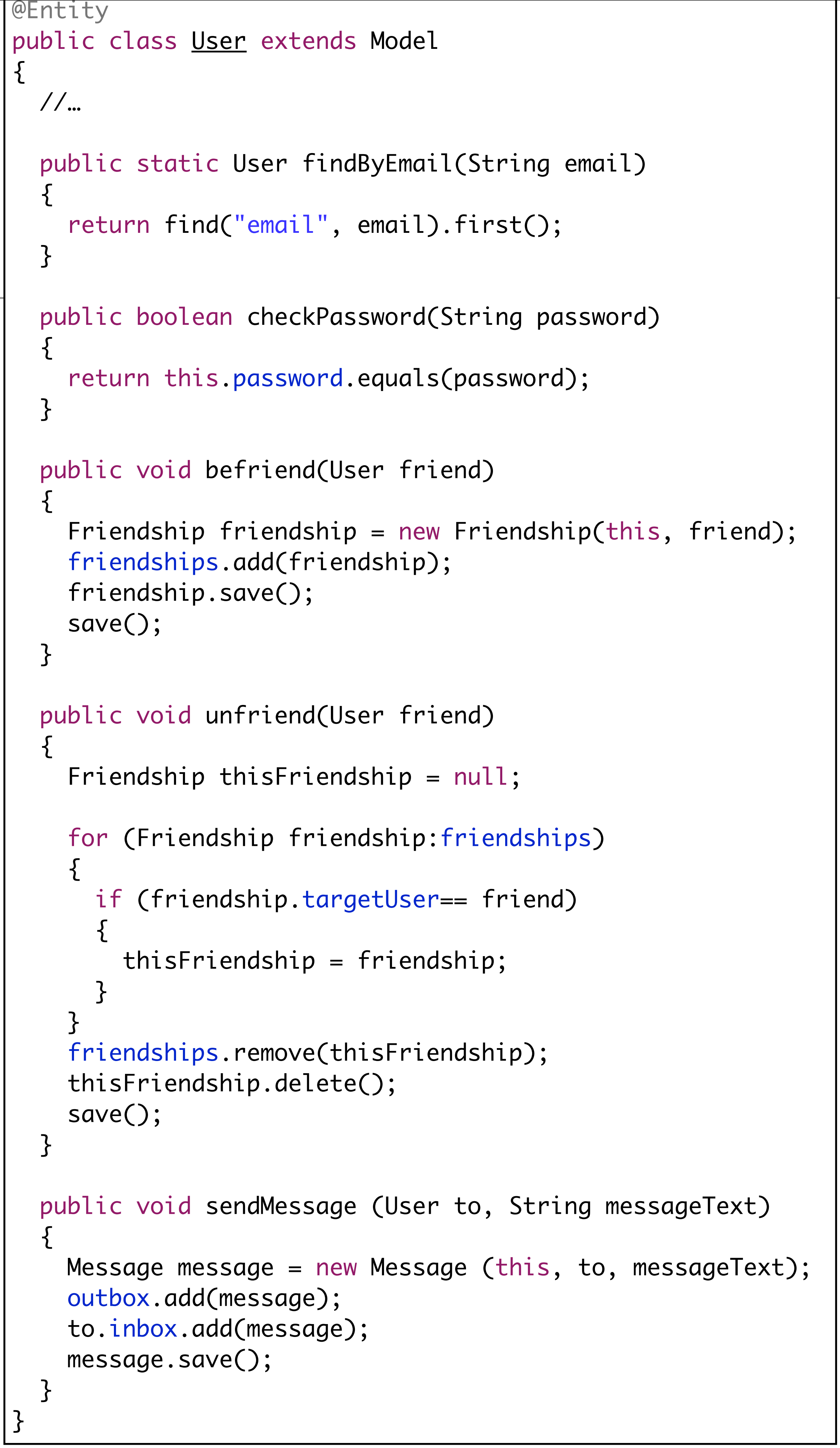
- For spacebook, this might include user details, names, passwords, messages, profile status images etc...

- Instanced of these classes will be saved to a database

User

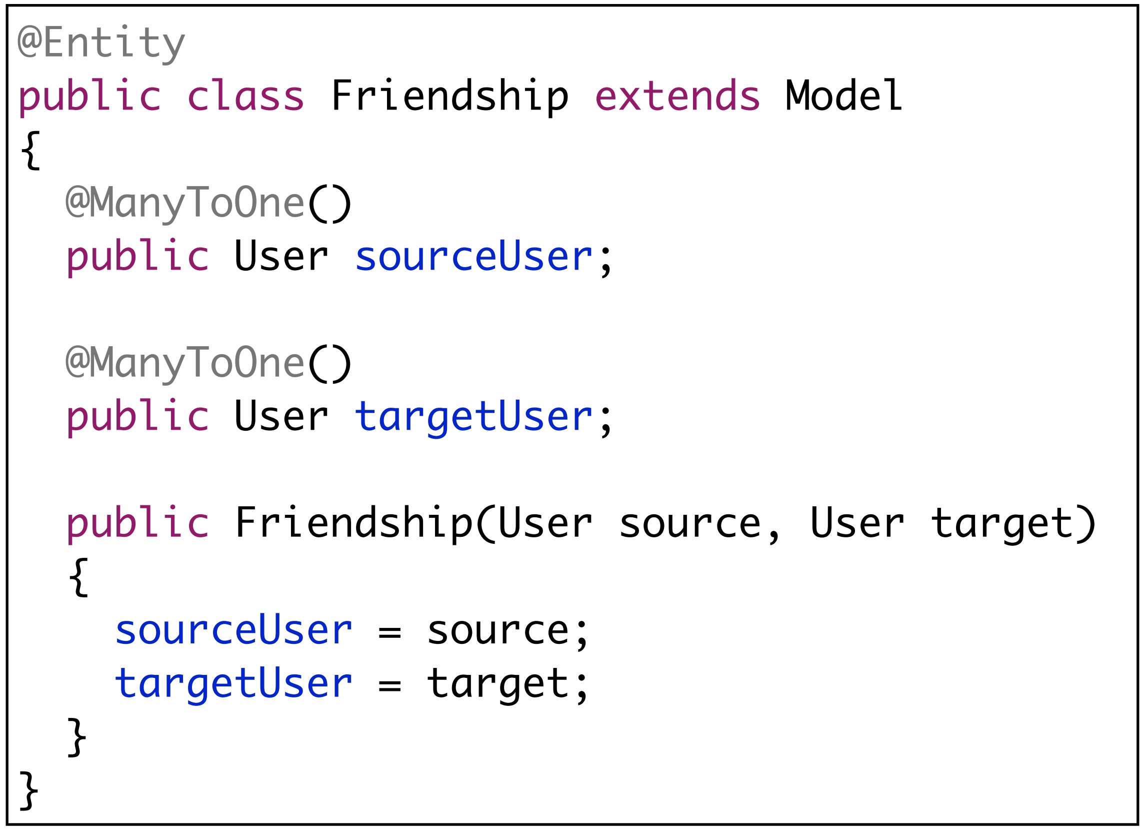
```java
@Entity
public class User extends Model
{
  public String firstName;
  public String lastName;
  public String email;
  public String password;
  public String statusText;
  public Blob   profilePicture;
  public int    age;
  public String nationality;

  @OneToMany(mappedBy = "sourceUser")
  public List<Friendship> friendships = new ArrayList<Friendship>();

  @OneToMany(mappedBy = "to")
  public List<Message> inbox = new ArrayList<Message>();

  @OneToMany(mappedBy = "from")
  public List<Message> outbox = new ArrayList<Message>();


  public User(String firstName, String lastName, String email, String password, int age, String nationality)
  {
    this.firstName = firstName;
    this.lastName = lastName;
    this.email = email;
    this.password = password;
    this.age = age;
    this.nationality = nationality;
  }
  //..
}
```

User (contd.)



```
@Entity
public class User extends Model
{
  //…

  public static User findByEmail(String email)
  {
    return find("email", email).first();
  }

  public boolean checkPassword(String password)
  {
    return this.password.equals(password);
  }

  public void befriend(User friend)
  {
    Friendship friendship = new Friendship(this, friend);
    friendships.add(friendship);
    friendship.save();
    save();
  }

  public void unfriend(User friend)
  {
    Friendship thisFriendship = null;

    for (Friendship friendship:friendships)
    {
      if (friendship.targetUser== friend)
      {
        thisFriendship = friendship;
      }
    }
    friendships.remove(thisFriendship);
    thisFriendship.delete();
    save();
  }

  public void sendMessage (User to, String messageText)
  {
    Message message = new Message (this, to, messageText);
    outbox.add(message);
    to.inbox.add(message);
    message.save();
  }
}
```

Friendship



```
@Entity
public class Friendship extends Model
{
  @ManyToOne()
  public User sourceUser;

  @ManyToOne()
  public User targetUser;

  public Friendship(User source, User target)
  {
    sourceUser = source;
    targetUser = target;
  }
}
```

Message

```
@Entity
public class Message extends Model
{
  public String messageText;

  @ManyToOne
  public User from;

  @ManyToOne
  public User to;

  public Message(User from, User to, String messageText)
  {
    this.from = from;
    this.to = to;
    this.messageText = messageText;
  }
}
```

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