

LABORATORIO 6

Bank Application

Software Development, part 4

1. Repository

- <https://github.com/un-sei2019i-labs-notimportant/bank>

2. Visual proof

```
Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git pull
remote: Enumerating objects: 198, done.
remote: Counting objects: 100% (198/198), done.
remote: Compressing objects: 100% (87/87), done.
remote: Total 150 (delta 29), reused 138 (delta 20), pack-reused 0
Receiving objects: 100% (150/150), 383.10 KiB | 1013.00 KiB/s, done.
Resolving deltas: 100% (29/29), completed with 15 local objects.
From https://github.com/un-sei2019i-labs-notimportant/bank
   302345a..0474777 develop    -> origin/develop
   * [new branch]      juanse   -> origin/juanse
Updating 302345a..0474777
Fast-forward
 mobile-app/Bank-app/DBHelper.java | 25 -----
 1 file changed, 25 deletions(-)
 delete mode 100644 mobile-app/Bank-app/DBHelper.java

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git add .
warning: LF will be replaced by CRLF in mobile-app/Bank-app/.gitignore.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in mobile-app/Bank-app/app/build.gradle.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in mobile-app/Bank-app/app/proguard-rules.p
ro.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in mobile-app/Bank-app/app/src/main/Android
Manifest.xml.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in mobile-app/Bank-app/app/src/main/res/dra
wable-v24/ic_launcher_foreground.xml.
```

```
Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git commit -m "Uploading the app with all the features needed for Lab #6"
[develop 8bc79a9] Uploading the app with all the features needed for Lab #6
100 files changed, 1967 insertions(+), 247 deletions(-)
rewrite mobile-app/Bank-app/.gitignore (86%)
create mode 100644 mobile-app/Bank-app/.idea/caches/gradle_models.ser
create mode 100644 mobile-app/Bank-app/.idea/modules.xml
delete mode 100644 mobile-app/Bank-app/app/.gitignore
create mode 100644 mobile-app/Bank-app/app/.idea/.name
create mode 100644 mobile-app/Bank-app/app/.idea/caches/build_file_checksums.se
r
create mode 100644 mobile-app/Bank-app/app/.idea/caches/gradle_models.ser
create mode 100644 mobile-app/Bank-app/app/.idea/encodings.xml
create mode 100644 mobile-app/Bank-app/app/.idea/gradle.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__android_arch
_core_common_1_0_0_jar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__android_arch
_lifecycle_common_1_0_0_jar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__android_arch
_lifecycle_runtime_1_0_0_aar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
support_animated_vector_drawable_26_1_0_aar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
support_appcompat_v7_26_1_0_aar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
support_constraint_constraint_layout_1_1_3_aar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
support_constraint_constraint_layout_solver_1_1_3_jar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
support_support_annotations_26_1_0_jar.xml
create mode 100644 mobile-app/Bank-app/app/.idea/libraries/Gradle__com_android_
```

```

rewrite mobile-app/Bank-app/app/src/main/res/mipmap-mdpi/ic_launcher.png (99%)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-mdpi/ic_launcher_round.png
(98%)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xhdpi/ic_launcher.png (99%)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xhdpi/ic_launcher_round.png
(99%)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xxhdpi/ic_launcher.png (99%)
)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xxhdpi/ic_launcher_round.png
(99%)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xxxhdpi/ic_launcher.png (99%)
)
rewrite mobile-app/Bank-app/app/src/main/res/mipmap-xxxhdpi/ic_launcher_round.png
(99%)
rename mobile-app/Bank-app/app/src/test/java/com/example/{bank_app => bankapp}/
ExampleUnitTest.java (78%)
rewrite mobile-app/Bank-app/gradle/wrapper/gradle-wrapper.jar (86%)

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git push origin develop
Enumerating objects: 182, done.
Counting objects: 100% (182/182), done.
Delta compression using up to 12 threads
Compressing objects: 100% (121/121), done.
Writing objects: 100% (138/138), 173.61 KiB | 3.95 MiB/s, done.
Total 138 (delta 44), reused 0 (delta 0)
remote: Resolving deltas: 100% (44/44), completed with 10 local objects.
To https://github.com/un-sei2019i-labs-notimportant/bank.git
0474777..8bc79a9 develop -> develop

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ |

```

```

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git checkout -b release-1.2 develop
Switched to a new branch 'release-1.2'

Juan Carlos@Reimu MINGW64 /d/D/bank (release-1.2)
$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.

Juan Carlos@Reimu MINGW64 /d/D/bank (master)
$ git merge --no-ff release-1.2
Removing mobile-app/Bank-app/app/src/main/res/layout/aqui_el_activity_login.txt
Removing mobile-app/Bank-app/app/src/main/java/com/example/bank_app/Utilities/Constants.java
Removing mobile-app/Bank-app/app/src/main/java/com/example/bank_app/LoginActivity.java
Removing mobile-app/Bank-app/app/src/main/java/com/example/bank_app/Database/DBHelper.java
Removing mobile-app/Bank-app/app/.gitignore
Removing mobile-app/Bank-app/DBHelper.java
Merge made by the 'recursive' strategy.
 mobile-app/Bank-app/.gitignore | 64 ++++++--
 mobile-app/Bank-app/.idea/caches/gradle_models.ser | Bin 0 -> 76732 bytes
 mobile-app/Bank-app/.idea/modules.xml | 9 ++
 mobile-app/Bank-app/DBHelper.java | 25 ----
 mobile-app/Bank-app/app/.gitignore | 1 -
 mobile-app/Bank-app/app/.idea/.name | 1 +
 .../app/.idea/caches/build_file_checksums.ser | Bin 0 -> 517 bytes
 .../Bank-app/app/.idea/caches/gradle_models.ser | Bin 0 -> 76722 bytes
 mobile-app/Bank-app/app/.idea/encodings.xml | 4 +
 mobile-app/Bank-app/app/.idea/gradle.xml | 14 ++
 .../Gradle_android_arch_core_common_1_0_0_jar.xml | 11 ++
 ...le_android_arch_lifecycle_common_1_0_0_jar.xml | 11 ++
 ...e_android_arch_lifecycle_runtime_1_0_0_aar.xml | 12 ++

```

```

Juan Carlos@Reimu MINGW64 /d/D/bank (master)
$ git checkout develop
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git checkout master
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 3 commits.
(use "git push" to publish your local commits)

Juan Carlos@Reimu MINGW64 /d/D/bank (master)
$ git push
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 227 bytes | 227.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0)
To https://github.com/un-sei2019i-labs-notimportant/bank.git
7375b2c..fdf4077 master -> master

Juan Carlos@Reimu MINGW64 /d/D/bank (master)
$ git checkout develop
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git merge --no-ff release-1.2
Already up to date.

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git push

```

```
Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git merge --no-ff release-1.2
Already up to date.

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git push
Everything up-to-date

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git branch -d release-1.2
Deleted branch release-1.2 (was 8bc79a9).

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git push origin --delete release-1.2
error: unable to delete 'release-1.2': remote ref does not exist
error: failed to push some refs to 'https://github.com/un-sei2019i-labs-notimportant/bank.git'

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git tag -a v1.2 master


Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 158 bytes | 79.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0)
To https://github.com/un-sei2019i-labs-notimportant/bank.git
 * [new tag]          v1.2 -> v1.2

Juan Carlos@Reimu MINGW64 /d/D/bank (develop)
$ |
```

🔗 master (6 minutes ago)

Branch: master ▾ New pull request

This branch is 2 commits ahead of develop.


 jucnunezgom Release 1.2 ...

docs	documents to be add
mobile-app/Bank-app	Uploading the app with all the features needed for Lab #6
test	Delete hola.txt
README.md	Initial commit

📖 README.md

Branch: master ▾ bank / mobile-app / Bank-app / app / src / main / java / com / example / bankapp /

This branch is 2 commits ahead of develop.

 jucnunezgom Uploading the app with all the features needed for Lab #6

..

businessLogic	Uploading the app with all the features needed for Lab #6
dataAccess	Uploading the app with all the features needed for Lab #6
presentation	Uploading the app with all the features needed for Lab #6

Branch: master bank / mobile-app / Bank-app / app / src / main / java / com / example / bankapp / businessLogic / controllers /

This branch is 2 commits ahead of develop.

 jucnunezgom

Uploading the app with all the features needed for Lab #6

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 InsertFirstValuesController.java

Uploading the app with all the features needed for Lab #6

 LoginController.java


Uploading the app with all the features needed for Lab #6

 SendMoneyController.java

Uploading the app with all the features needed for Lab #6


Branch: master bank / mobile-app / Bank-app / app / src / main / java / com / example / bankapp / presentation / activities /

This branch is 2 commits ahead of develop.


 jucnunezgom

Uploading the app with all the features needed for Lab #6


..

 LoginActivity.java

Uploading the app with all the features needed for Lab #6

 MainActivity.java

Uploading the app with all the features needed for Lab #6

 SendMoneyActivity.java

Uploading the app with all the features needed for Lab #6

Releases

Tags

10 minutes ago

v1.2

fdf4077 zip tar.gz

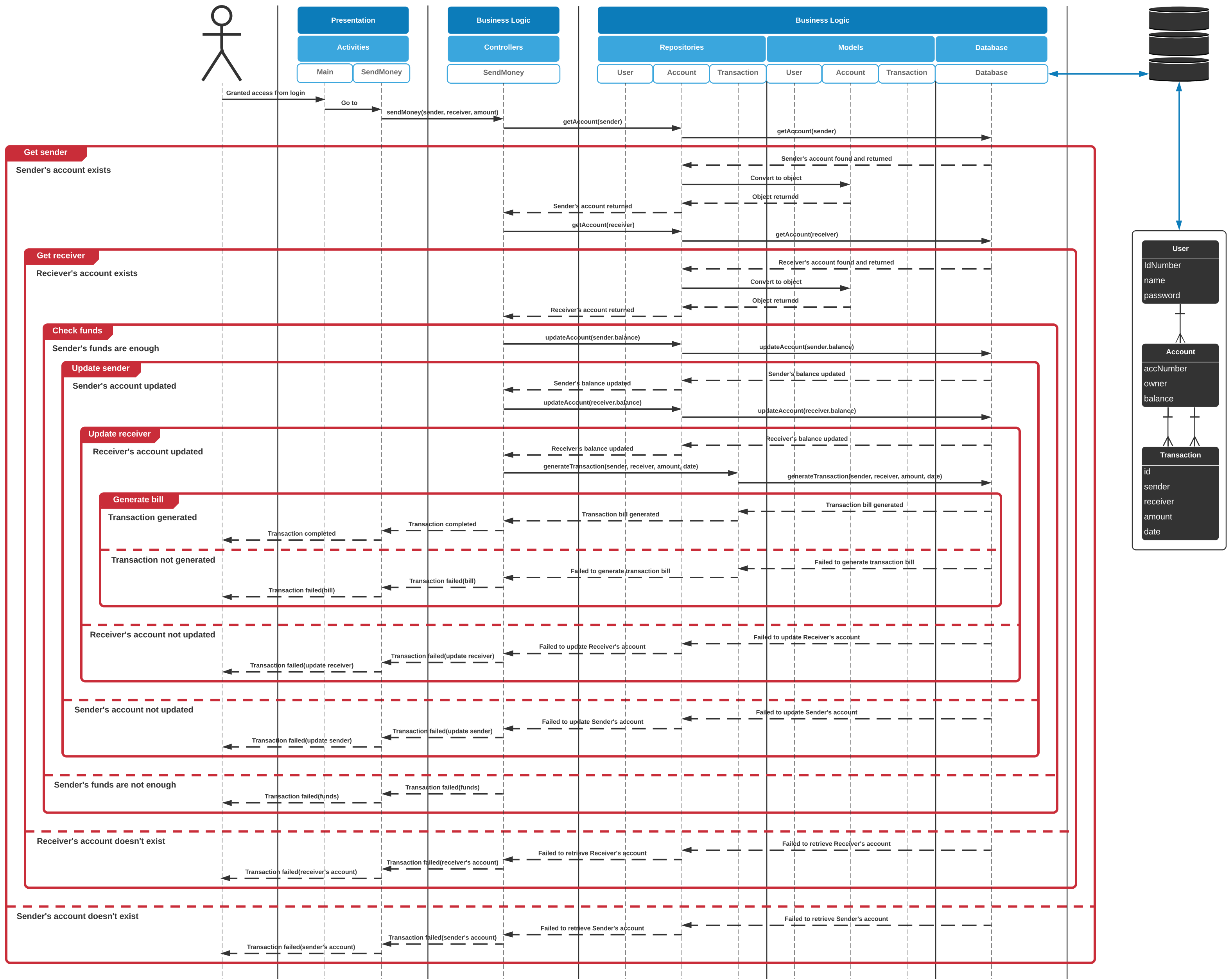
Releases

Tags

Tags

v1.2

10 minutes ago fdf4077 zip tar.gz



```
24 protected void onCreate(Bundle savedInstanceState) {
25     super.onCreate(savedInstanceState);
26     setContentView(R.layout.activity_login);
27
28     DatabaseManager.init(LoginActivity.this);
29
30     insertFirstValuesController = new InsertFirstValuesController();
31     insertFirstValuesController.createEntries();
32
33     ActionBar actionBar = getSupportActionBar();
34     actionBar.setTitle("Login");
35
36     et_idnumber = (EditText) findViewById(R.id.et_username);
37     et_password = (EditText) findViewById(R.id.et_password);
38
39     Button btn_login = findViewById(R.id.btn_login);
40     btn_login.setOnClickListener((view) -> {
41         loginController = new LoginController();
42         try{
43             int idNum = Integer.parseInt(et_idnumber.getText().toString());
44             int pass = Integer.parseInt(et_password.getText().toString());
45             try{
46                 int matchedAccount = loginController.loginNow(idNum, pass);
47                 if(matchedAccount==0){
48                     Toast.makeText(getApplicationContext(), "The data you have entered is incorrect.", Toast.LENGTH_SHORT).show();
49                 }else{
50                     et_idnumber.setText("");
51                     et_password.setText("");
52                     Intent intent = new Intent(LoginActivity.this, MainActivity.class);
53                     intent.putExtra("currentAccount", String.valueOf(matchedAccount));
54                     startActivity(intent);
55                     finish();
56                 }
57             }
58         }catch(Exception e){
59             Toast.makeText(getApplicationContext(), "There was a problem with our servers. Please try again later.", Toast.LENGTH_SHORT).show();
60         }
61     }catch(Exception e){
62         Toast.makeText(getApplicationContext(), "All fields must be filled.", Toast.LENGTH_SHORT).show();
63     }
64 }
65
66
67
68 }
```


Android > LoginActivity.java > MainActivity.java > SendMoneyActivity.java

Project

Resource Manager

Layout Captures

Build Variants

Device File Explorer

app

manifests

java

com.example.bankapp

businessLogic

controllers

InsertFirstValuesController

LoginController

SendMoneyController

filler

dataAccess

presentation

activities

LoginActivity

MainActivity

SendMoneyActivity

filler

com.example.bankapp (androidTest)

com.example.bankapp (test)

generatedJava

res

Gradle Scripts

25

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```
ActionBar actionBar = getSupportActionBar();
actionBar.setTitle("Home");

tv_account = (TextView) findViewById(R.id.tv_account);
tv_currentAccount = (TextView) findViewById(R.id.tv_currentAccount);

Bundle extras = this.getIntent().getExtras();
final String sender = extras.getString("currentAccount");
tv_currentAccount.setText(sender);

Button btn_goto_sendmoney = findViewById(R.id.btn_goto_sendmoney);
btn_goto_sendmoney.setOnClickListener((view) -> {
    Intent intent = new Intent(MainActivity.this, SendMoneyActivity.class);
    intent.putExtra("sender", sender);
    startActivity(intent);
});

Button btn_logout = findViewById(R.id.btn_logout);
btn_logout.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent intent = new Intent(MainActivity.this, LoginActivity.class);
        intent.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK | Intent.FLAG_ACTIVITY_CLEAR_TASK);
        startActivity(intent);
        finish();
    }
});

@Override
public void onBackPressed() {
    if (backPressedTime + 2000 > System.currentTimeMillis()) {
        backToast.cancel();
        super.onBackPressed();
        return;
    } else {
        backToast = Toast.makeText(getBaseContext(), "Press back again to exit and logout", Toast.LENGTH_SHORT);
        backToast.show();
    }

    backPressedTime = System.currentTimeMillis();
}
```

MainActivity > onCreate()

Run Logcat TODO Profiler Terminal Build

Emulator: Process finished with exit code 0 (today 8:54 PM)

54:12 CRLF UTF-8 4 spaces

Android > LoginActivity.java > MainActivity.java > SendMoneyActivity.java

Project

Resource Manager

Layout Captures

Structure

Build Variants

Device File Explorer

app

manifests

java

com.example.bankapp

businessLogic

controllers

InsertFirstValuesController

LoginController

SendMoneyController

filler

dataAccess

presentation

activities

LoginActivity

MainActivity

SendMoneyActivity

filler

com.example.bankapp (androidTest)

com.example.bankapp (test)

generatedJava

res

Gradle Scripts

28

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```
ActionBar actionBar = getSupportActionBar();
actionBar.setTitle("Send Money");

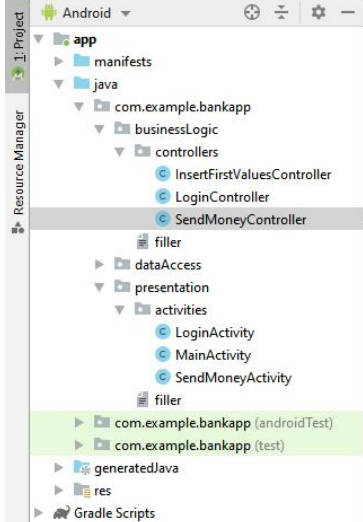
et_receiver = (EditText) findViewById(R.id.et_receiver);
et_amount = (EditText) findViewById(R.id.et_amount);
tv_account = (TextView) findViewById(R.id.tv_account);
tv_currentAccount = (TextView) findViewById(R.id.tv_currentAccount);

Bundle extras = this.getIntent().getExtras();
final String sender = extras.getString("sender");
tv_currentAccount.setText(sender);

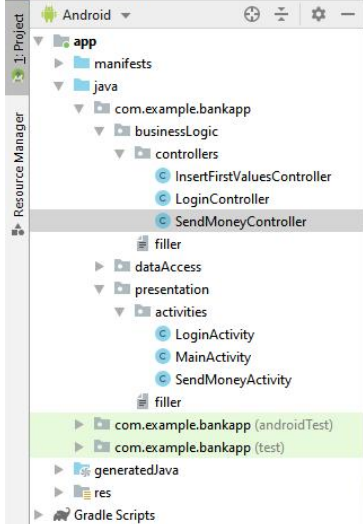
Button btn_sendmoney = findViewById(R.id.btn_sendmoney);
btn_sendmoney.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        sendMoneyController = new SendMoneyController();
        try{
            int receiver = Integer.parseInt(et_receiver.getText().toString());
            int amount = Integer.parseInt(et_amount.getText().toString());
            try{
                String appResponseTransaction = sendMoneyController.sendMoney(Integer.parseInt(sender), receiver, amount);
                Toast.makeText(getApplicationContext(), appResponseTransaction, Toast.LENGTH_SHORT).show();
            }catch(Exception e){
                Toast.makeText(getApplicationContext(), "There was a problem with our servers. Please try again later.", Toast.LENGTH_SHORT).show();
            }
        }catch(Exception e){
            Toast.makeText(getApplicationContext(), "All fields must be filled.", Toast.LENGTH_SHORT).show();
        }
    }
});

Button btn_logout = findViewById(R.id.btn_logout);
btn_logout.setOnClickListener((view) -> {
    Intent intent = new Intent(SendMoneyActivity.this, LoginActivity.class);
    intent.setFlags(Intent.FLAG_ACTIVITY_NEW_TASK | Intent.FLAG_ACTIVITY_CLEAR_TASK);
    startActivity(intent);
    finish();
});
```

Gradle

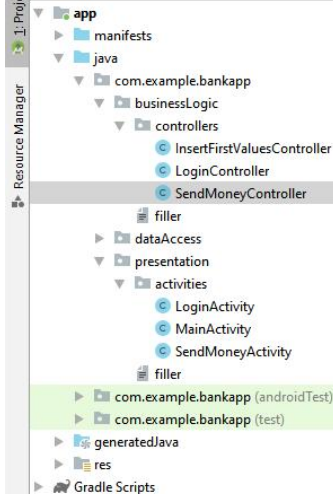


```
1 package com.example.bankapp.businessLogic.controllers;
2
3 import com.example.bankapp.dataAccess.models.Account;
4 import com.example.bankapp.dataAccess.models.User;
5 import com.example.bankapp.dataAccess.repositories.AccountRepository;
6 import com.example.bankapp.dataAccess.repositories.UserRepository;
7
8 import java.util.List;
9
10 public class LoginController {
11
12     private AccountRepository accountRepository;
13     private UserRepository userRepository;
14     private User user = new User();
15
16     public int loginNow(int idNumber, int password){
17         int accountLoggedIn = 0;
18         userRepository = new UserRepository();
19         user = (User) userRepository.getUserById(idNumber);
20         if(user==null){
21             return accountLoggedIn;
22         }else{
23             int pass = user.getPassword();
24             if(pass!=password){
25                 return accountLoggedIn;
26             }else{
27                 accountRepository = new AccountRepository();
28                 List<Account> accountList = (List<Account>) accountRepository.getThemAll();
29                 for(Account accs: accountList){
30                     int accountNumberToMatch = accs.getOwner().getIdNumber();
31                     if(user.getIdNumber()==accountNumberToMatch){
32                         accountLoggedIn = accs.getAccountNumber();
33                         return accountLoggedIn;
34                     }
35                 }
36                 return accountLoggedIn;
37             }
38         }
39     }
40 }
41
```



```
10 public class SendMoneyController {
11
12     private AccountRepository account;
13     private TransactionRepository transaction;
14     private Account senderAcc;
15     private Account receiverAcc;
16
17     public String sendMoney(int sender, int receiver, int amount){
18         if(amount==0){
19             return "Amount must be greater than zero.";
20         }else{
21             if(sender==receiver){
22                 return "Accounts must be different.";
23             }else{
24                 account = new AccountRepository();
25                 senderAcc = new Account();
26                 receiverAcc = new Account();
27                 if(account.getAccountById(sender)==null){
28                     return "Sender's account doesn't exist.";
29                 }else{
30                     senderAcc = (Account) account.getAccountById(sender);
31                     if(account.getAccountById(receiver)==null){
32                         return "Receiver's account doesn't exist.";
33                     }else{
34                         receiverAcc = (Account) account.getAccountById(receiver);
35                         if(senderAcc.getBalance()<amount){
36                             return "You don't have enough funds.";
37                         }else{
38                             String updateSenderFundsMessage = updateSenderFunds(senderAcc, amount);
39                             if(updateSenderFundsMessage!=""){
40                                 return updateSenderFundsMessage;
41                             }else{
42                                 String updateReceiverFundsMessage = updateReceiverFunds(receiverAcc, amount);
43                                 if(updateReceiverFundsMessage!=""){
44                                     return updateReceiverFundsMessage;
45                                 }else{
46                                     String generateBillMessage = generateTransaction(senderAcc, receiverAcc, amount);
47                                     if(generateBillMessage!=""){
48                                         return generateBillMessage;
49                                     }else{
49                                         return "Transaction completed!";
50                                     }
51                                 }
52                             }
53                         }
54                     }
55                 }
56             }
57         }
58     }
59 }
```

SendMoneyController > sendMoney()



```
56  
57  
58  
59  
60  
61 private String updateSenderFunds(Account sender, int amount) {  
62     String senderUpdateMessage= "";  
63     try{  
64         senderAcc.setBalance(senderAcc.getBalance() - amount);  
65         account.updateAccount(senderAcc);  
66     }catch(Exception e){  
67         senderUpdateMessage = "Sender's funds couldn't be updated. Please try again later.";  
68     }  
69     return senderUpdateMessage;  
70 }  
71  
72 private String updateReceiverFunds(Account receiver, int amount) {  
73     String receiverUpdateMessage= "";  
74     try{  
75         receiverAcc.setBalance(receiverAcc.getBalance() + amount);  
76         account.updateAccount(receiverAcc);  
77     }catch(Exception e){  
78         receiverUpdateMessage = "Receiver's funds couldn't be updated. Please try again later.";  
79     }  
80     return receiverUpdateMessage;  
81 }  
82  
83 private String generateTransaction(Account sender, Account receiver, int amount) {  
84     String billMessage= "";  
85     try{  
86         transaction = new TransactionRepository();  
87         Transaction bill = new Transaction(sender, receiver, amount, new Date());  
88         transaction.createTransaction(bill);  
89     }catch(Exception e){  
90         billMessage = "The bill for the transaction cound't be generated. Please try again later.";  
91     }  
92     return billMessage;  
93 }  
94  
95 }  
96
```

SendMoneyController > sendMoney()


```
1 package com.example.bankapp.businessLogic.controllers;
2
3 import ...
4
11
12 public class InsertFirstValuesController {
13
14     private UserRepository user;
15     private AccountRepository account;
16
17     public void createEntries() {
18
19         user = new UserRepository();
20         account = new AccountRepository();
21
22         new Handler().postDelayed(() -> {
23
24             List<User> userList = (List<User>) user.getThemAll();
25
26             if(userList.size()==0) {
27
28                 User one = new User(1116500600, "Juan Carlos", 123456);
29                 User two = new User(1115600500, "Pepito Perez", 321654);
30
31                 user.createUser(one);
32                 user.createUser(two);
33
34                 Account three = new Account(11223344, one, 500);
35                 Account four = new Account(44332211, two, 700);
36
37                 account.createAccount(three);
38                 account.createAccount(four);
39
40             }
41         }, 500);
42     }
43 }
44
45
46
47
```

	accountNumber	balance	owner_id
	Filter	Filter	Filter
1	11223344	500	1116500600
2	44332211	700	1115600500

amount	date	id	receiver_id	sender_id
Filter	Filter	Filter	Filter	Filter

Banky

Username

Password

LOG IN

Banky

1116500600

.....

LOG IN

Home

Current account
11223344

SEND MONEY

LOG OUT



Send Money

Current account

11223344

SEND

LOG OUT



Send Money

Current account

11223344

44332211

500

SEND

LOG OUT



Send Money

Current account

11223344

44332211

500

SEND

LOG OUT

Transaction completed!

Banky

Username

Password

LOG IN

Banky

1115600500

.....

LOG IN

Home

Current account
44332211

SEND MONEY

LOG OUT



Send Money

Current account
44332211

Receiver's account

Amount

SEND

LOG OUT



Send Money

Current account
44332211

11223344

1000

SEND

LOG OUT



Send Money

Current account
44332211

11223344

1000

SEND

LOG OUT

Transaction completed!

	accountNumber	balance	owner_id
	Filter	Filter	Filter
1	11223344	1000	1116500600
2	44332211	200	1115600500

	amount	date	id	receiver_id	sender_id
	Filter	Filter	Filter	Filter	Filter
1	500	2019-06-09 2...	1	44332211	11223344
2	1000	2019-06-09 2...	2	11223344	44332211