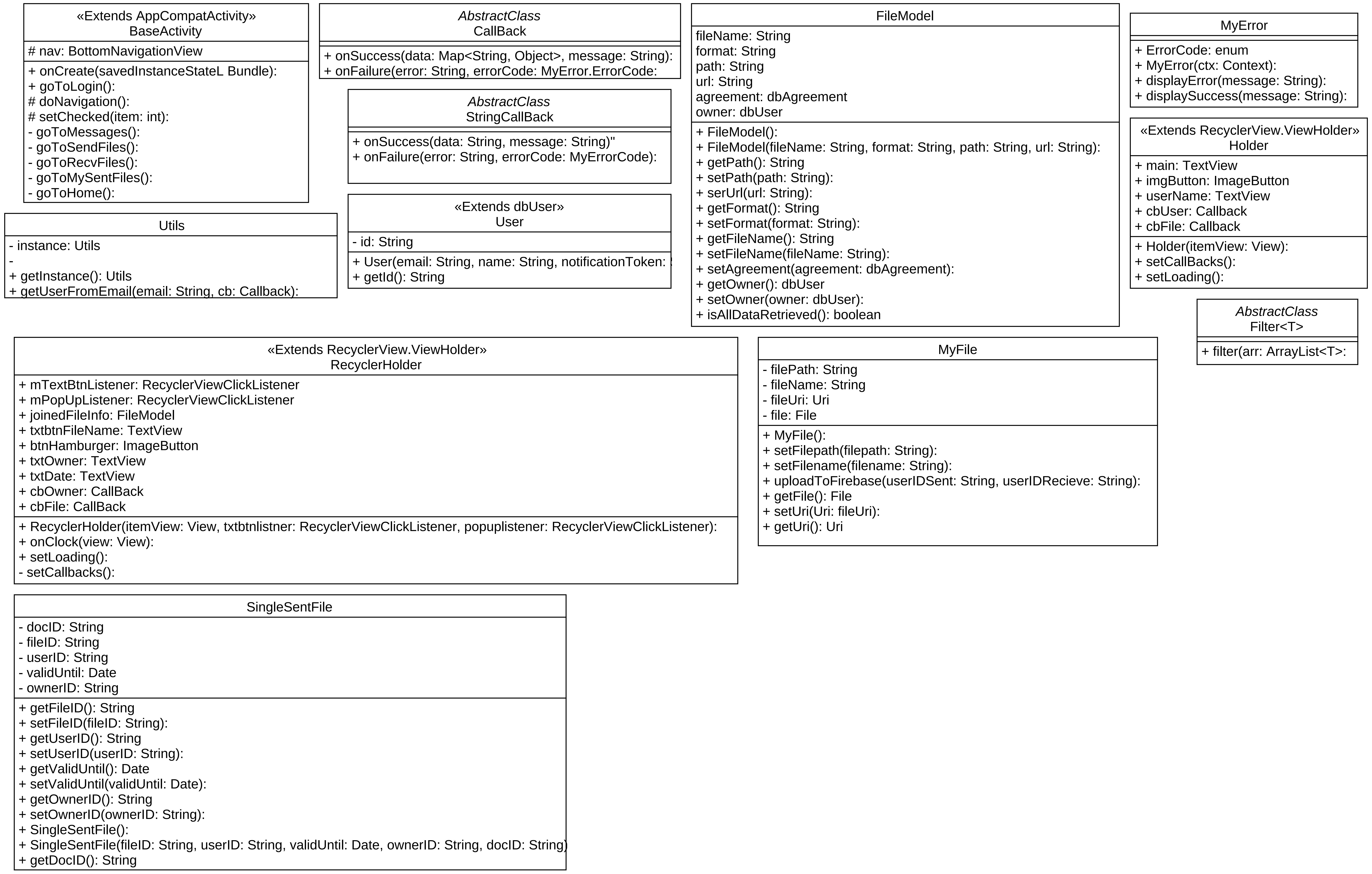
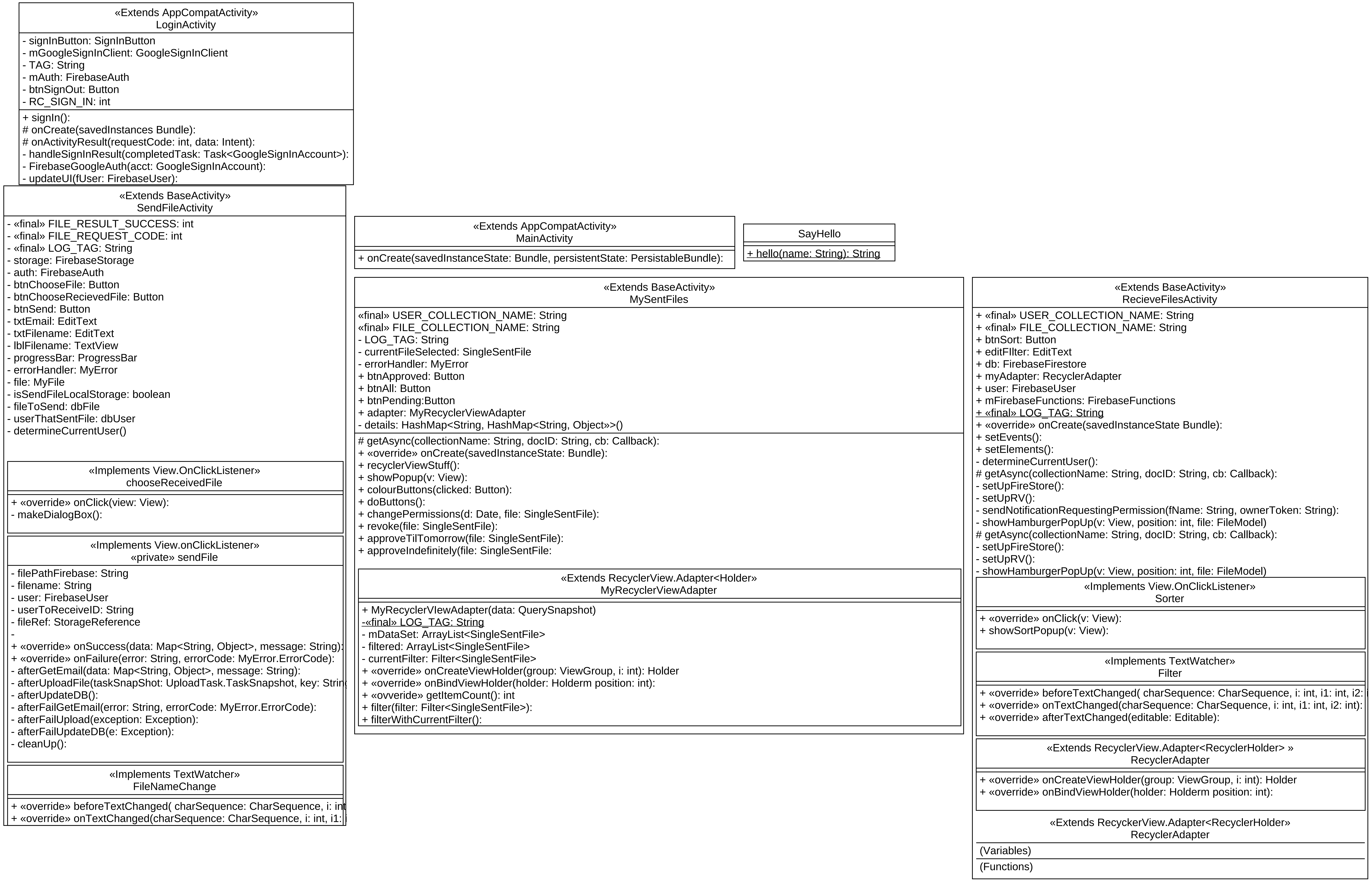

«Extends AppCompatActivity»
BaseActivity
# nav: BottomNavigationView
+ onCreate(savedInstanceStateL Bundle):
+ goToLogin():
# doNavigation():
# setChecked(item: int):
- goToMessages():
- goToSendFiles():
- goToRecvFiles():
- goToMySentFiles():
- goToHome():
AbstractClass
CallBack
+ onSuccess(data: Map<String, Object>, message: String):
+ onFailure(error: String, errorCode: MyError.ErrorCode:
AbstractClass
StringCallBack
+ onSuccess(data: String, message: String)"
+ onFailure(error: String, errorCode: MyErrorCode):
«Extends dbUser»
User
- id: String
+ User(email: String, name: String, notificationToken: S
+ getId(): String
Utils
- instance: Utils
-
+ getInstance(): Utils
+ getUserFromEmail(email: String, cb: Callback):
FileModel
fileName: String
format: String
path: String
url: String
agreement: dbAgreement
owner: dbUser
+ FileModel():
+ FileModel(fileName: String, format: String, path: String, url: String):
+ getPath(): String
+ setPath(path: String):
+ serUrl(url: String):
+ getFormat(): String
+ setFormat(format: String):
+ getFileName(): String
+ setFileName(fileName: String):
+ setAgreement(agreement: dbAgreement):
+ getOwner(): dbUser
+ setOwner(owner: dbUser):
+ isAllDataRetrieved(): boolean
MyError
+ ErrorCode: enum
+ MyError(ctx: Context):
+ displayError(message: String):
+ displaySuccess(message: String):
«Extends RecyclerView.ViewHolder»
Holder
+ main: TextView
+ imgButton: ImageButton
+ userName: TextView
+ cbUser: Callback
+ cbFile: Callback
+ Holder(itemView: View):
+ setCallBacks():
+ setLoading():
AbstractClass
Filter<T>
+ filter(arr: ArrayList<T>:
«Extends RecyclerView.ViewHolder»
RecyclerHolder
+ mTextBtnListener: RecyclerViewClickListener
+ mPopUpListener: RecyclerViewClickListener
+ joinedFileInfo: FileModel
+ txtbtnFileName: TextView
+ btnHamburger: ImageButton
+ txtOwner: TextView
+ txtDate: TextView
+ cbOwner: CallBack
+ cbFile: CallBack
+ RecyclerHolder(itemView: View, txtbtnlistner: RecyclerViewClickListener, popuplistener: RecyclerViewClickListener):
+ onClock(view: View):
+ setLoading():
- setCallbacks():
MyFile
- filePath: String
- fileName: String
- fileUri: Uri
- file: File
+ MyFile():
+ setFilepath(filepath: String):
+ setFilename(filename: String):
+ uploadToFirebase(userIDSent: String, userIDRecieve: String):
+ getFile(): File
+ setUri(Uri: fileUri):
+ getUri(): Uri
SingleSentFile
- docID: String
- fileID: String
- userID: String
- validUntil: Date
- ownerID: String
+ getFileID(): String
+ setFileID(fileID: String):
+ getUserID(): String
+ setUserID(userID: String):
+ getValidUntil(): Date
+ setValidUntil(validUntil: Date):
+ getOwnerID(): String
+ setOwnerID(ownerID: String):
+ SingleSentFile():
+ SingleSentFile(fileID: String, userID: String, validUntil: Date, ownerID: String, docID: String)
+ getDocID(): String



```
«Extends AppCompatActivity»
LoginActivity
- signInButton: SignInButton
- mGoogleSignInClient: GoogleSignInClient
- TAG: String
- mAuth: FirebaseAuth
- btnSignOut: Button
- RC_SIGN_IN: int
+ signIn():
# onCreate(savedInstances Bundle):
# onActivityResult(requestCode: int, data: Intent):
- handleSignInResult(completedTask: Task<GoogleSignInAccount>):
- FirebaseGoogleAuth(acct: GoogleSignInAccount):
- updateUI(fUser: FirebaseUser):
```

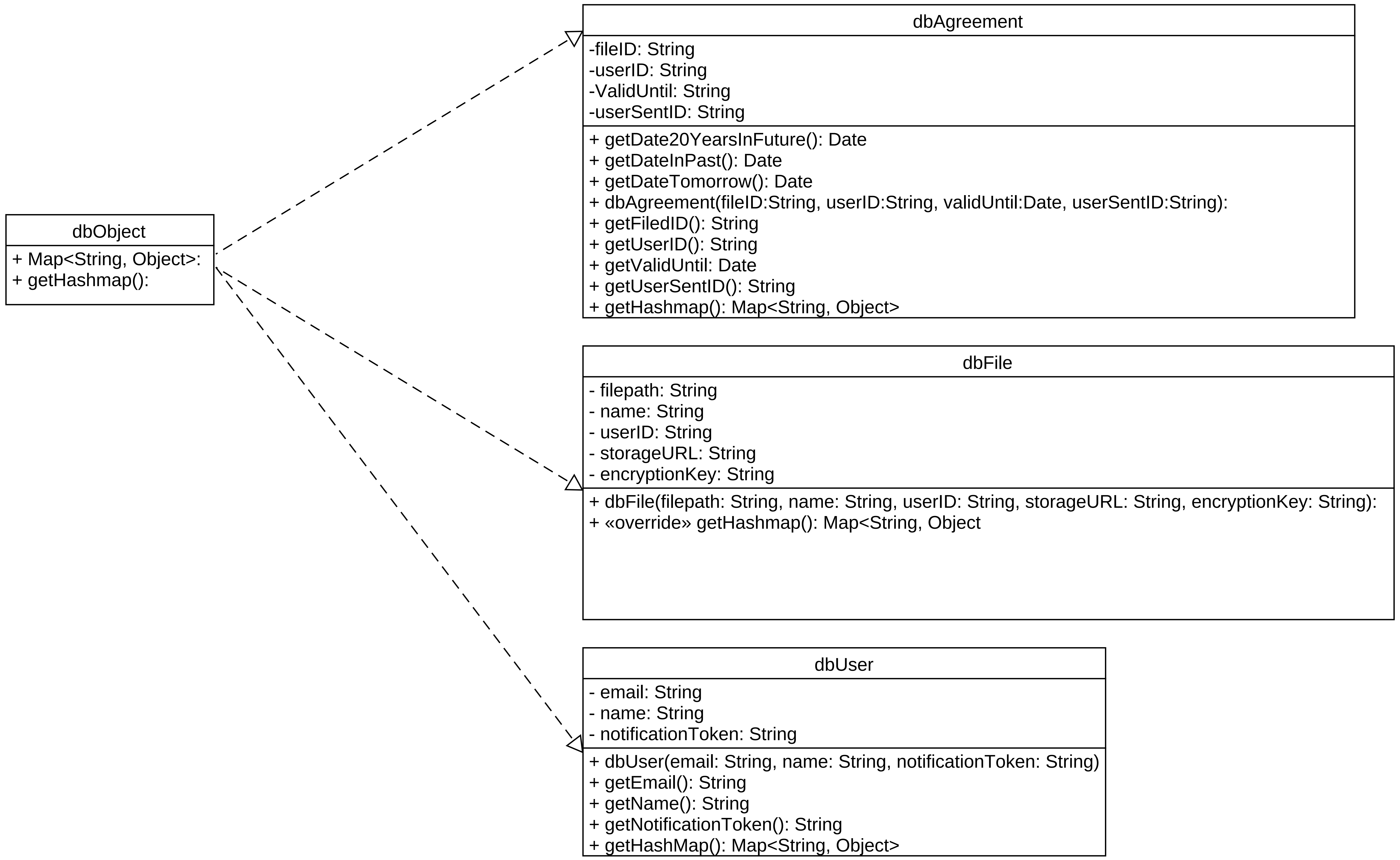
```
«Extends BaseActivity»
SendFileActivity
- «final» FILE_RESULT_SUCCESS: int
- «final» FILE_REQUEST_CODE: int
- «final» LOG_TAG: String
- storage: FirebaseStorage
- auth: FirebaseAuth
- btnChooseFile: Button
- btnChooseRecievedFile: Button
- btnSend: Button
- txtEmail: EditText
- txtFilename: EditText
- lblFilename: TextView
- progressBar: ProgressBar
- errorHandler: MyError
- file: MyFile
- isSendFileLocalStorage: boolean
- fileToSend: dbFile
- userThatSentFile: dbUser
- determineCurrentUser()

  «Implements View.OnClickListener»
  chooseReceivedFile
  + «override» onClick(view: View):
  - makeDialogBox():

  «Implements View.onClickListener»
  «private» sendFile
  - filePathFirebase: String
  - filename: String
  - user: FirebaseUser
  - userToReceiveID: String
  - fileRef: StorageReference
  -
  + «override» onSuccess(data: Map<String, Object>, message: String):
  + «override» onFailure(error: String, errorCode: MyError.ErrorCode):
  - afterGetEmail(data: Map<String, Object>, message: String):
  - afterUploadFile(taskSnapShot: UploadTask.TaskSnapshot, key: Strin
  - afterUpdateDB():
  - afterFailGetEmail(error: String, errorCode: MyError.ErrorCode):
  - afterFailUpload(exception: Exception):
  - afterFailUpdateDB(e: Exception):
  - cleanUp():

  «Implements TextWatcher»
  FileNameChange
  + «override» beforeTextChanged( charSequence: CharSequence, i: int
  + «override» onTextChanged(charSequence: CharSequence, i: int, i1:
```

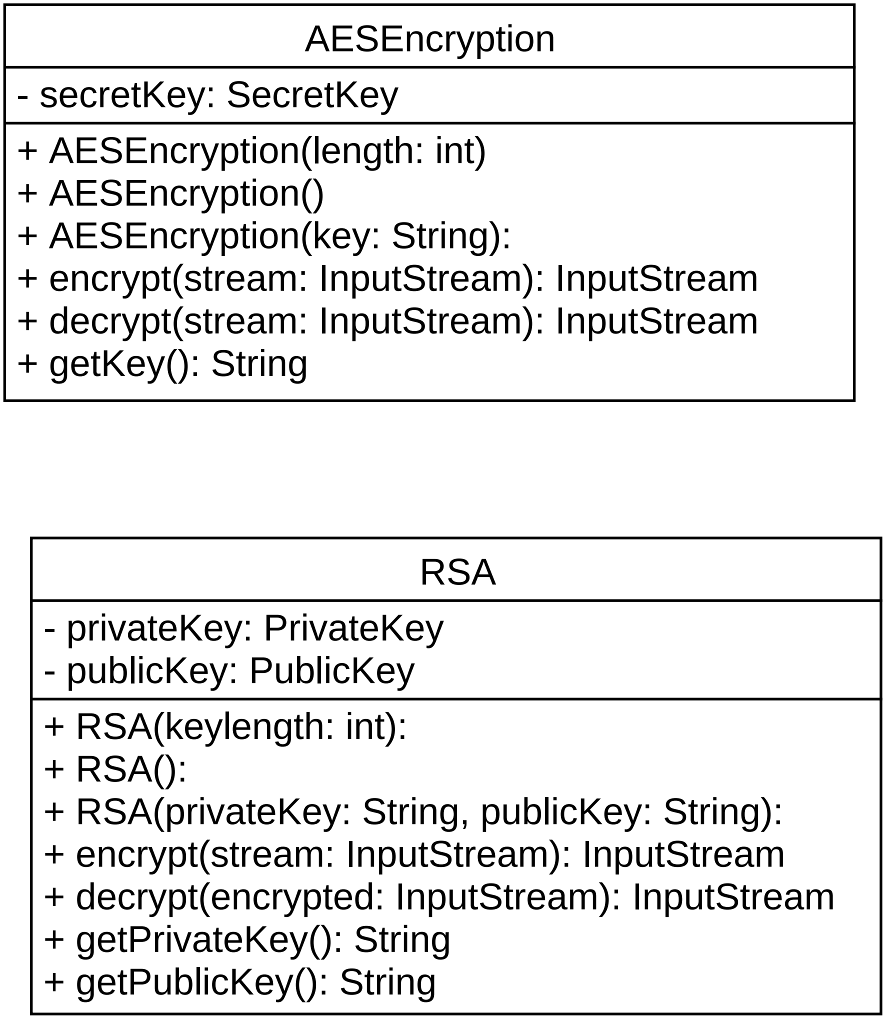
```
«Extends AppCompatActivity»
MainActivity
+ onCreate(savedInstanceState: Bundle, persistentState: PersistableBundle):
```

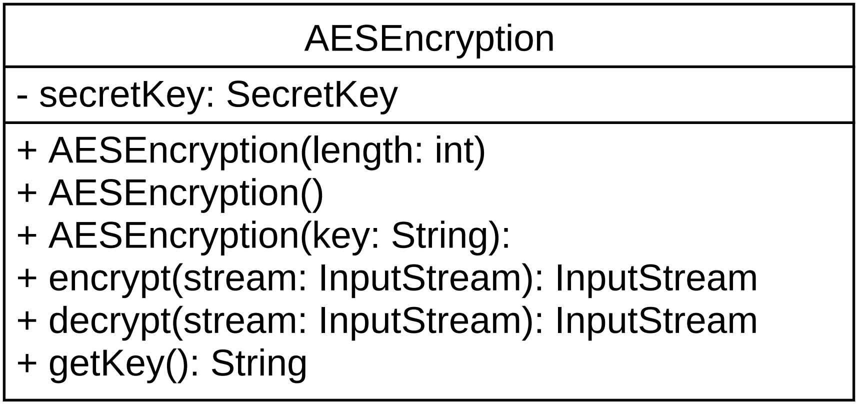
```
SayHello
+ hello(name: String): String
```

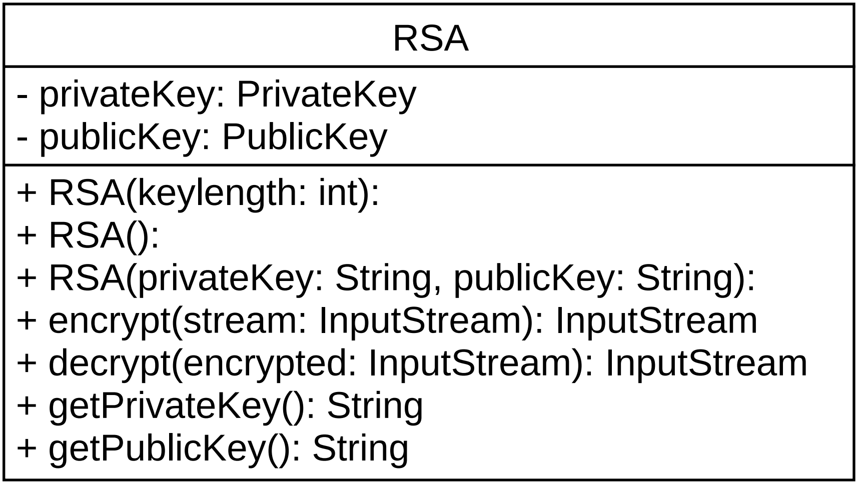
```
«Extends BaseActivity»
MySentFiles
«final» USER_COLLECTION_NAME: String
«final» FILE_COLLECTION_NAME: String
- LOG_TAG: String
- currentFileSelected: SingleSentFile
- errorHandler: MyError
+ btnApproved: Button
+ btnAll: Button
+ btnPending:Button
+ adapter: MyRecyclerViewAdapter
- details: HashMap<String, HashMap<String, Object»>()
# getAsync(collectionName: String, docID: String, cb: Callback):
+ «override» onCreate(savedInstanceState: Bundle):
+ recyclerViewStuff():
+ showPopup(v: View):
+ colourButtons(clicked: Button):
+ doButtons():
+ changePermissions(d: Date, file: SingleSentFile):
+ revoke(file: SingleSentFile):
+ approveTilTomorrow(file: SingleSentFile):
+ approveIndefinitely(file: SingleSentFile:

  «Extends RecyclerView.Adapter<Holder»
  MyRecyclerViewAdapter
  + MyRecyclerVIewAdapter(data: QuerySnapshot)
  -«final» LOG_TAG: String
  - mDataSet: ArrayList<SingleSentFile>
  - filtered: ArrayList<SingleSentFile>
  - currentFilter: Filter<SingleSentFile>
  + «override» onCreateViewHolder(group: ViewGroup, i: int): Holder
  + «override» onBindViewHolder(holder: Holderm position: int):
  + «ovveride» getItemCount(): int
  + filter(filter: Filter<SingleSentFile>):
  + filterWithCurrentFilter():
```

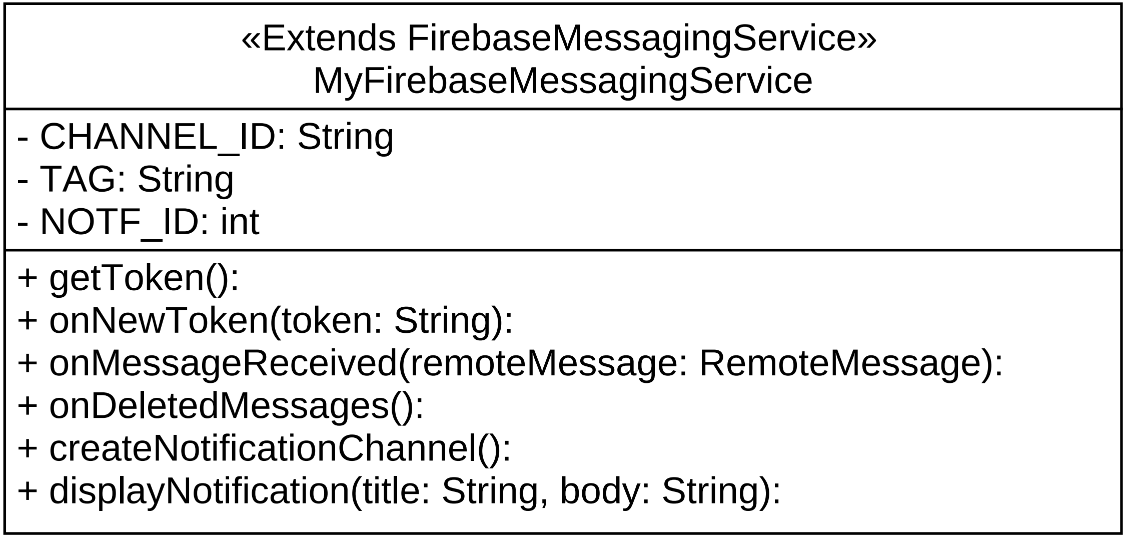
```
«Extends BaseActivity»
RecieveFilesActivity
+ «final» USER_COLLECTION_NAME: String
+ «final» FILE_COLLECTION_NAME: String
+ btnSort: Button
+ editFIlter: EditText
+ db: FirebaseFirestore
+ myAdapter: RecyclerAdapter
+ user: FirebaseUser
+ mFirebaseFunctions: FirebaseFunctions
+ «final» LOG_TAG: String
+ «override» onCreate(savedInstanceState Bundle):
+ setEvents():
+ setElements():
- determineCurrentUser():
# getAsync(collectionName: String, docID: String, cb: Callback):
- setUpFireStore():
- setUpRV():
- sendNotificationRequestingPermission(fName: String, ownerToken: String):
- showHamburgerPopUp(v: View, position: int, file: FileModel)
# getAsync(collectionName: String, docID: String, cb: Callback):
- setUpFireStore():
- setUpRV():
- showHamburgerPopUp(v: View, position: int, file: FileModel)

  «Implements View.OnClickListener»
  Sorter
  + «override» onClick(v: View):
  + showSortPopup(v: View):

  «Implements TextWatcher»
  Filter
  + «override» beforeTextChanged( charSequence: CharSequence, i: int, i1: int, i2:
  + «override» onTextChanged(charSequence: CharSequence, i: int, i1: int, i2: int):
  + «override» afterTextChanged(editable: Editable):

  «Extends RecyclerView.Adapter<RecyclerHolder> »
  RecyclerAdapter
  + «override» onCreateViewHolder(group: ViewGroup, i: int): Holder
  + «override» onBindViewHolder(holder: Holderm position: int):

  «Extends RecyckerView.Adapter<RecyclerHolder»
  RecyclerAdapter
  (Variables)
  (Functions)
```

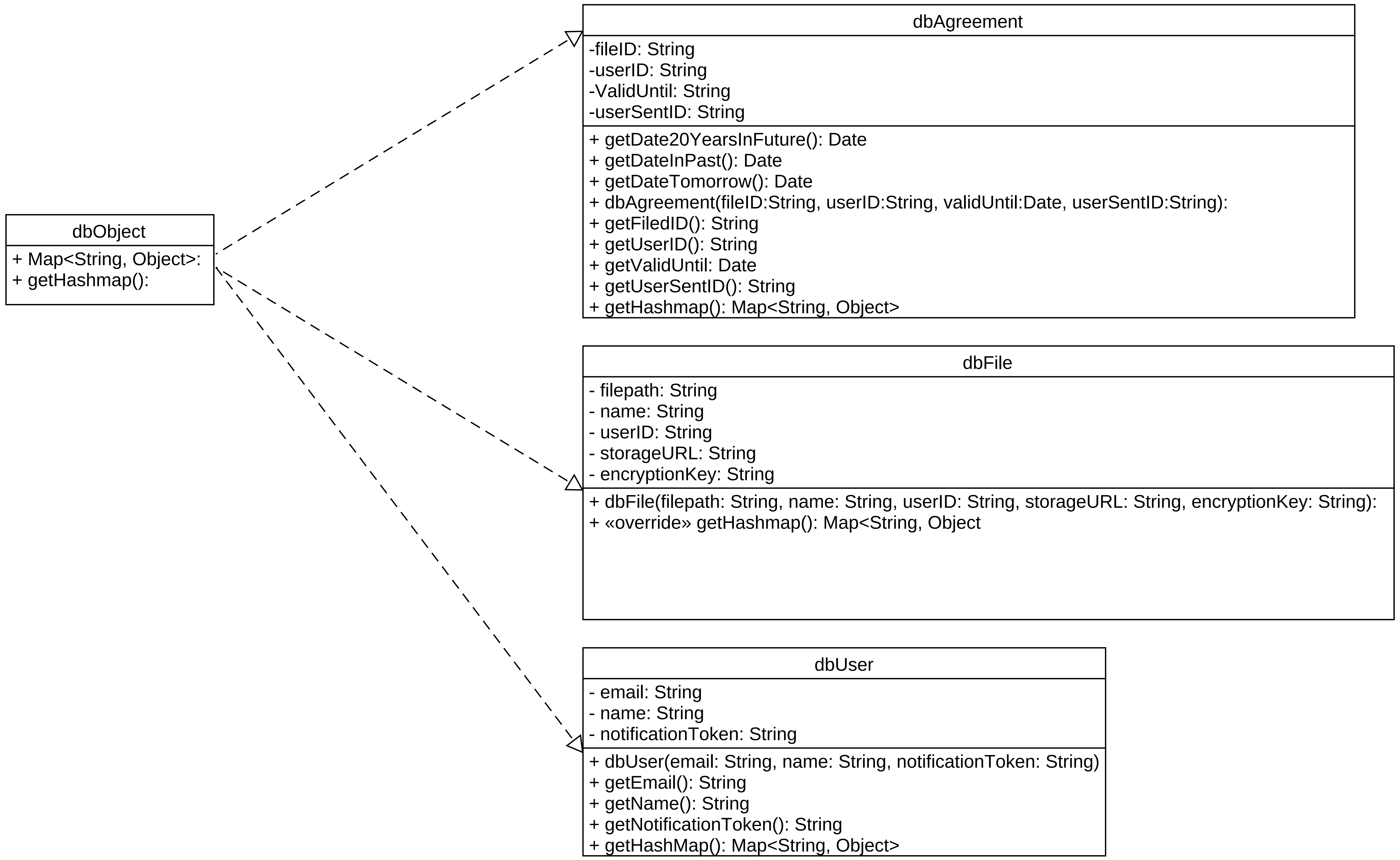

dbObject
+ Map<String, Object>:
+ getHashmap():
dbAgreement
-fileID: String
-userID: String
-ValidUntil: String
-userSentID: String
+ getDate20YearsInFuture(): Date
+ getDateInPast(): Date
+ getDateTomorrow(): Date
+ dbAgreement(fileID:String, userID:String, validUntil:Date, userSentID:String):
+ getFiledID(): String
+ getUserID(): String
+ getValidUntil: Date
+ getUserSentID(): String
+ getHashmap(): Map<String, Object>
dbFile
- filepath: String
- name: String
- userID: String
- storageURL: String
- encryptionKey: String
+ dbFile(filepath: String, name: String, userID: String, storageURL: String, encryptionKey: String):
+ «override» getHashmap(): Map<String, Object
dbUser
- email: String
- name: String
- notificationToken: String
+ dbUser(email: String, name: String, notificationToken: String)
+ getEmail(): String
+ getName(): String
+ getNotificationToken(): String
+ getHashMap(): Map<String, Object>

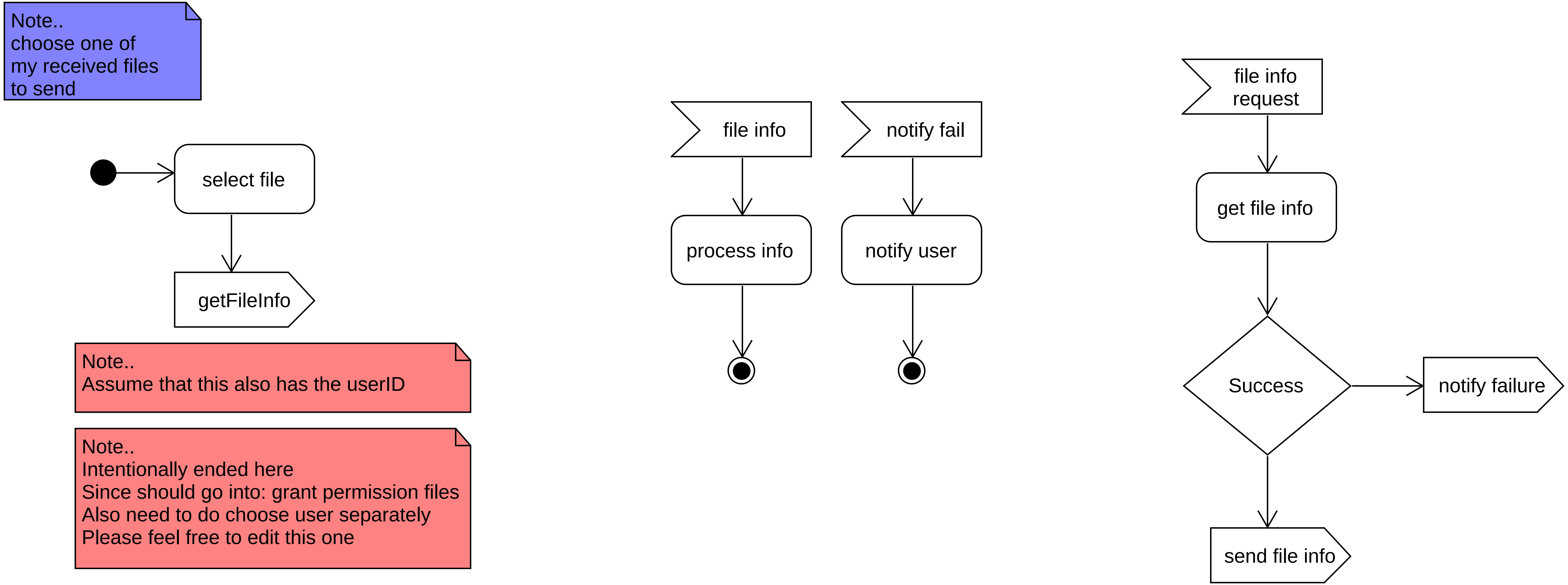

AESEncryption
- secretKey: SecretKey
+ AESEncryption(length: int)
+ AESEncryption()
+ AESEncryption(key: String):
+ encrypt(stream: InputStream): InputStream
+ decrypt(stream: InputStream): InputStream
+ getKey(): String
RSA
- privateKey: PrivateKey
- publicKey: PublicKey
+ RSA(keylength: int):
+ RSA():
+ RSA(privateKey: String, publicKey: String):
+ encrypt(stream: InputStream): InputStream
+ decrypt(encrypted: InputStream): InputStream
+ getPrivateKey(): String
+ getPublicKey(): String


AESEncryption
- secretKey: SecretKey
+ AESEncryption(length: int)
+ AESEncryption()
+ AESEncryption(key: String):
+ encrypt(stream: InputStream): InputStream
+ decrypt(stream: InputStream): InputStream
+ getKey(): String


RSA
- privateKey: PrivateKey
- publicKey: PublicKey
+ RSA(keylength: int):
+ RSA():
+ RSA(privateKey: String, publicKey: String):
+ encrypt(stream: InputStream): InputStream
+ decrypt(encrypted: InputStream): InputStream
+ getPrivateKey(): String
+ getPublicKey(): String


«Extends FirebaseMessagingService»
MyFirebaseMessagingService
- CHANNEL_ID: String
- TAG: String
- NOTF_ID: int
+ getToken():
+ onNewToken(token: String):
+ onMessageReceived(remoteMessage: RemoteMessage):
+ onDeletedMessages():
+ createNotificationChannel():
+ displayNotification(title: String, body: String):

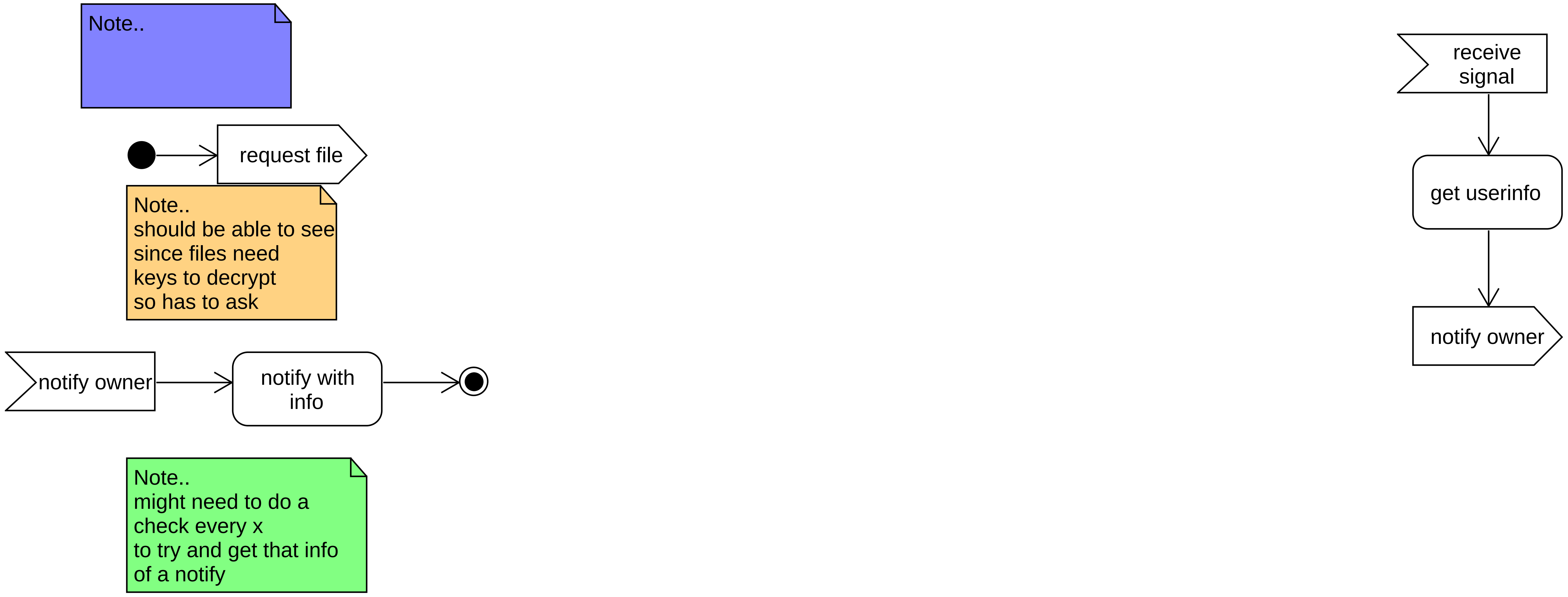

dbObject
+ Map<String, Object>:
+ getHashmap():
dbAgreement
-fileID: String
-userID: String
-ValidUntil: String
-userSentID: String
+ getDate20YearsInFuture(): Date
+ getDateInPast(): Date
+ getDateTomorrow(): Date
+ dbAgreement(fileID:String, userID:String, validUntil:Date, userSentID:String):
+ getFiledID(): String
+ getUserID(): String
+ getValidUntil: Date
+ getUserSentID(): String
+ getHashmap(): Map<String, Object>
dbFile
- filepath: String
- name: String
- userID: String
- storageURL: String
- encryptionKey: String
+ dbFile(filepath: String, name: String, userID: String, storageURL: String, encryptionKey: String):
+ «override» getHashmap(): Map<String, Object
dbUser
- email: String
- name: String
- notificationToken: String
+ dbUser(email: String, name: String, notificationToken: String)
+ getEmail(): String
+ getName(): String
+ getNotificationToken(): String
+ getHashMap(): Map<String, Object>

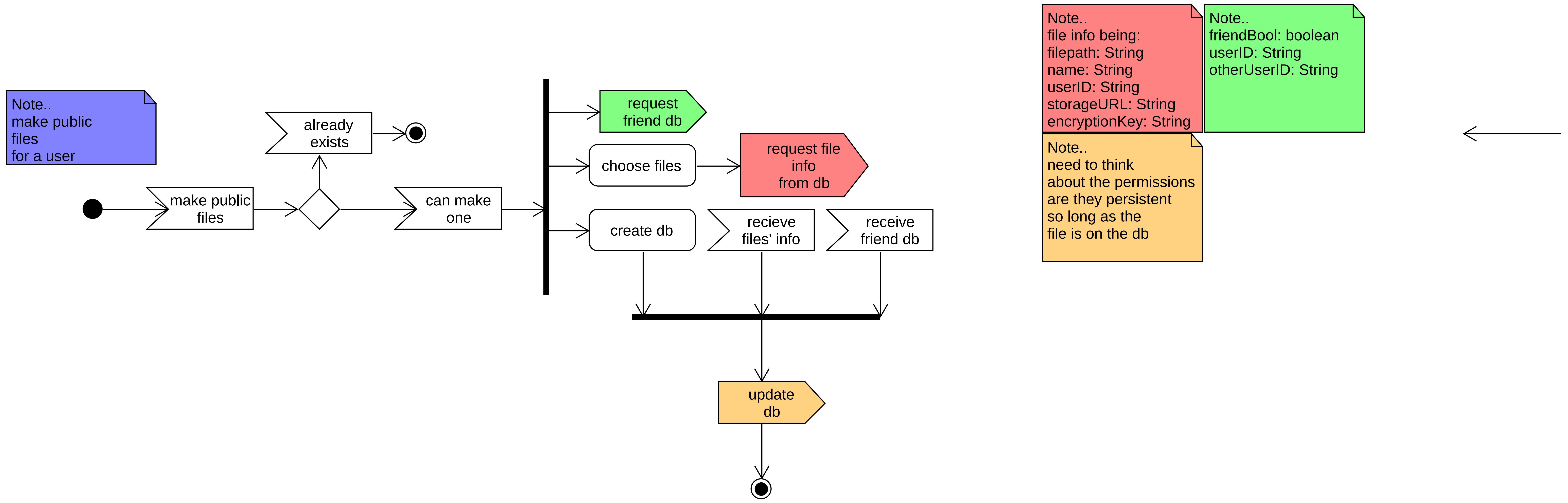


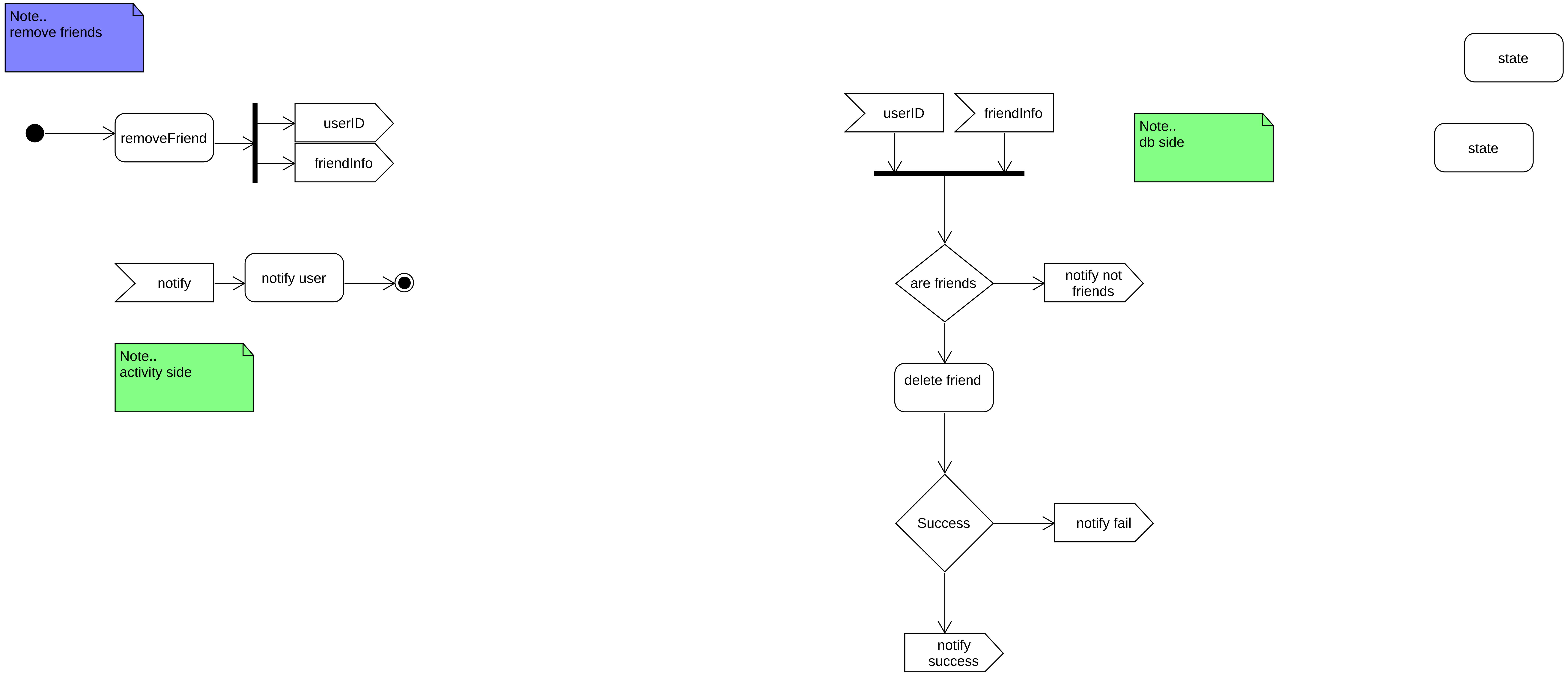
Note..
choose one of
my received files
to send

Note..
Assume that this also has the userID

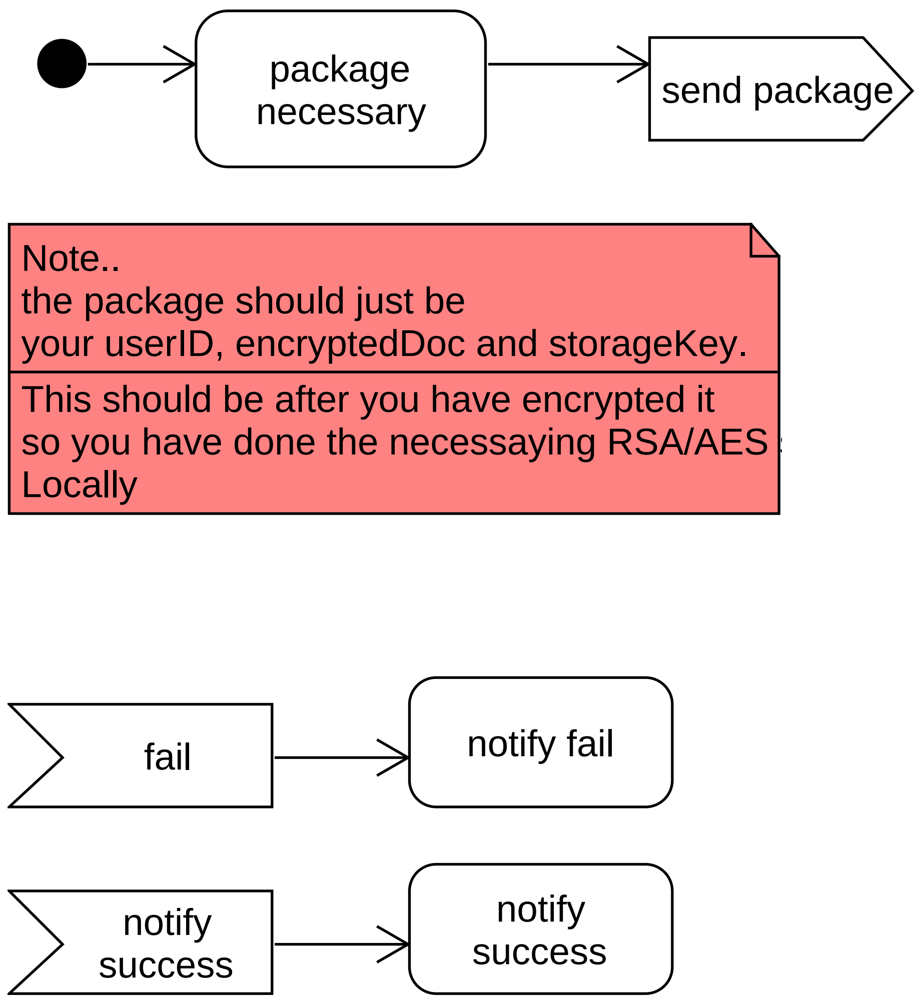
Note..
Intentionally ended here
Since should go into: grant permission files
Also need to do choose user separately
Please feel free to edit this one


Note..
request file
Note..
should be able to see
since files need
keys to decrypt
so has to ask
notify owner
notify with info
Note..
might need to do a
check every x
to try and get that info
of a notify
receive signal
get userinfo
notify owner


Note..
make public
files
for a user
make public
files
already
exists
can make
one
request
friend db
choose files
request file
info
from db
create db
recieve
files' info
receive
friend db
update
db
Note..
file info being:
filepath: String
name: String
userID: String
storageURL: String
encryptionKey: String
Note..
friendBool: boolean
userID: String
otherUserID: String
Note..
need to think
about the permissions
are they persistent
so long as the
file is on the db


Note..
remove friends
removeFriend
userID
friendInfo
notify
notify user
Note..
activity side
userID
friendInfo
Note..
db side
state
state
are friends
notify not friends
delete friend
Success
notify fail
notify success

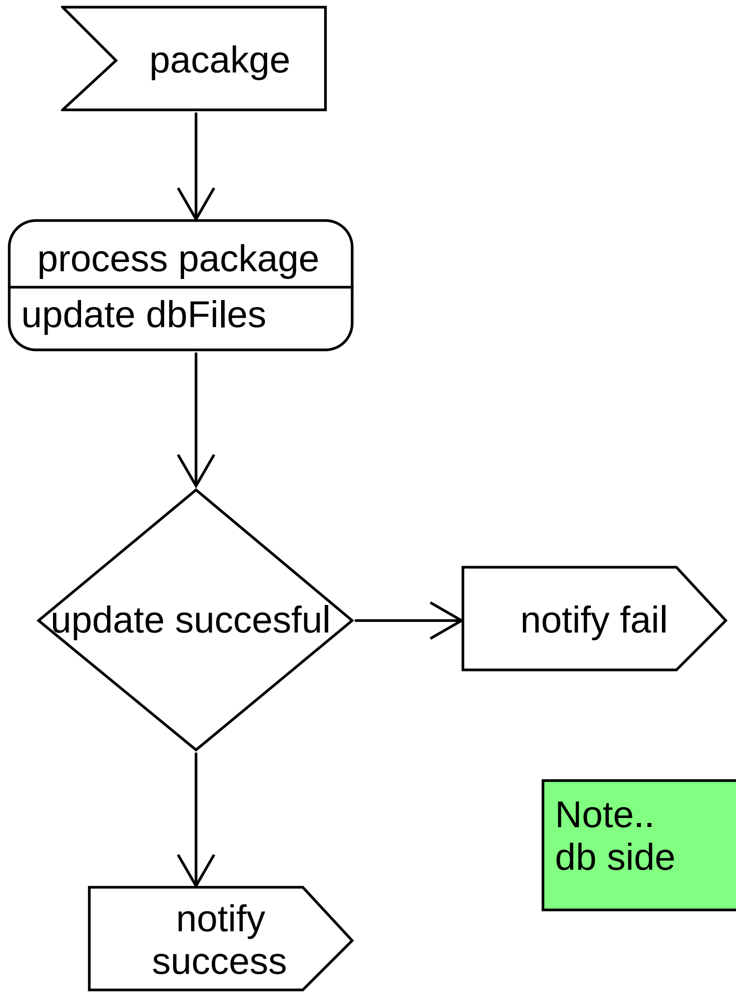
Note..
When uploading a file, upload only the encrypted part



Note..
the package should just be
your userID, encryptedDoc and storageKey.

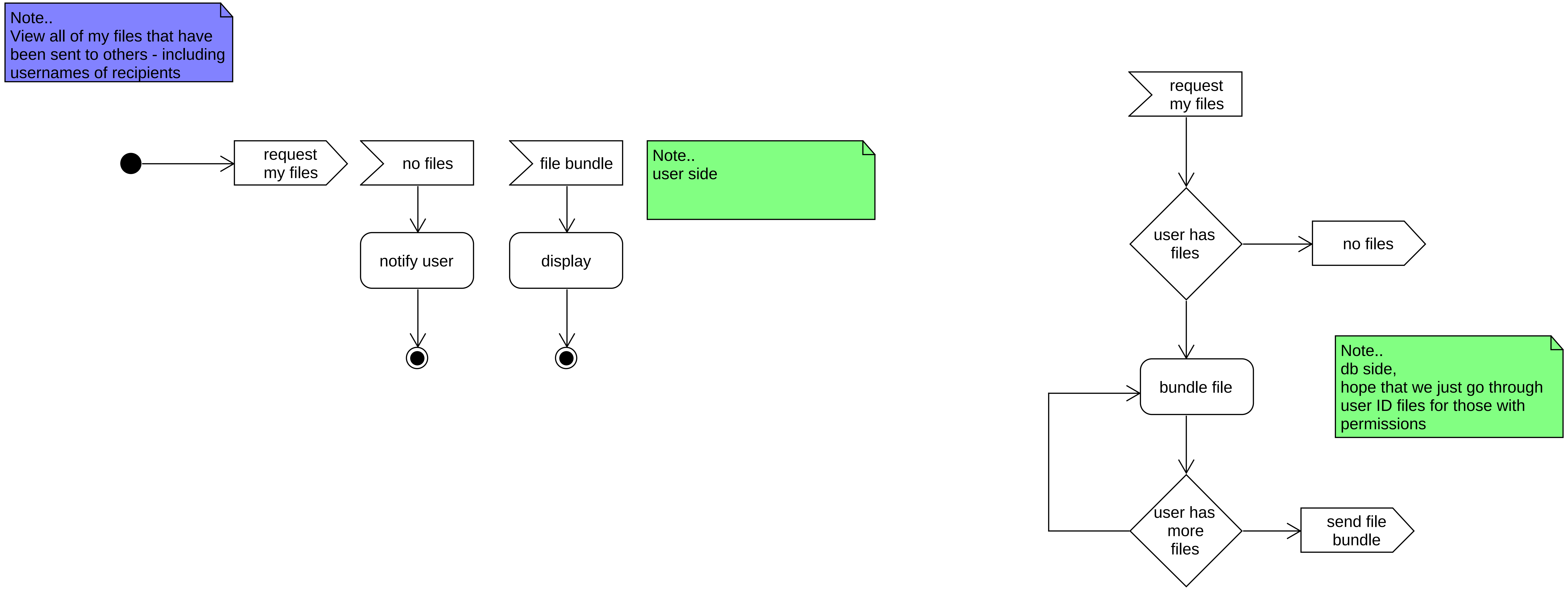
This should be after you have encrypted it
so you have done the necessaying RSA/AES
Locally

Note..
user side



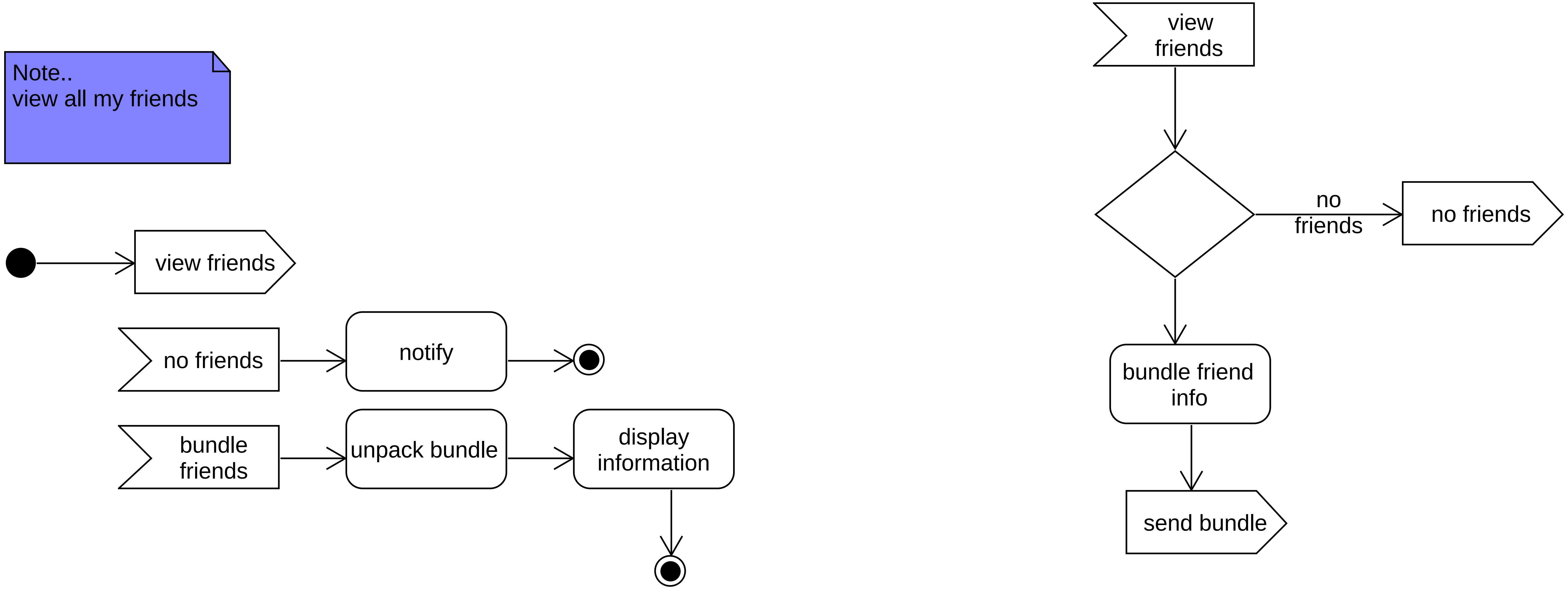
Note..
db side

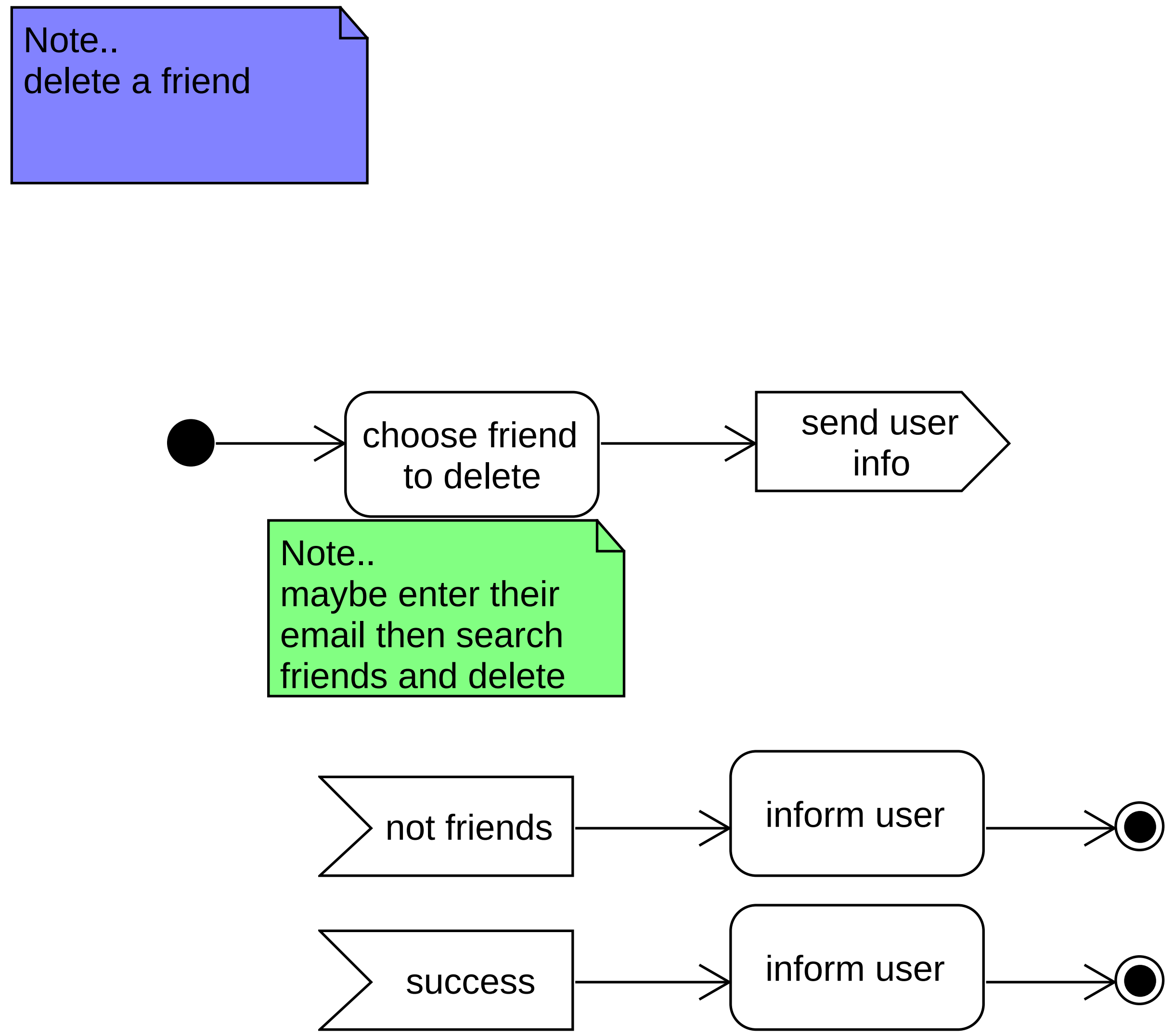
«Michael»
I combined this with the uploading of the encryption key
Please if you feel they should be separated keep them
Separated. You will know what is better to do,
I just assume that it is possible to send both at once.

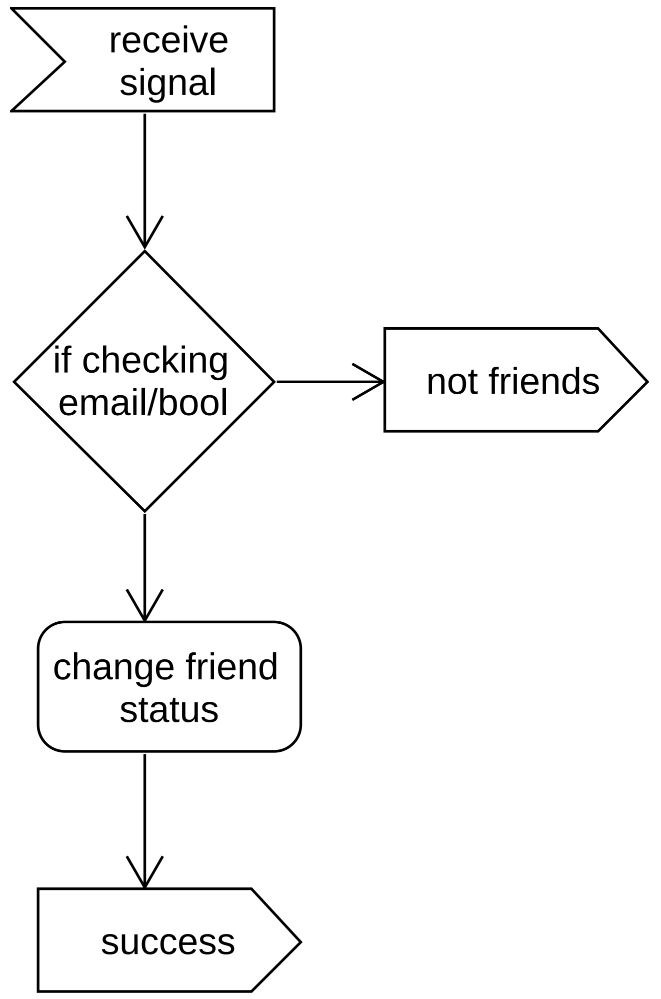

Note..
View all of my files that have been sent to others - including usernames of recipients

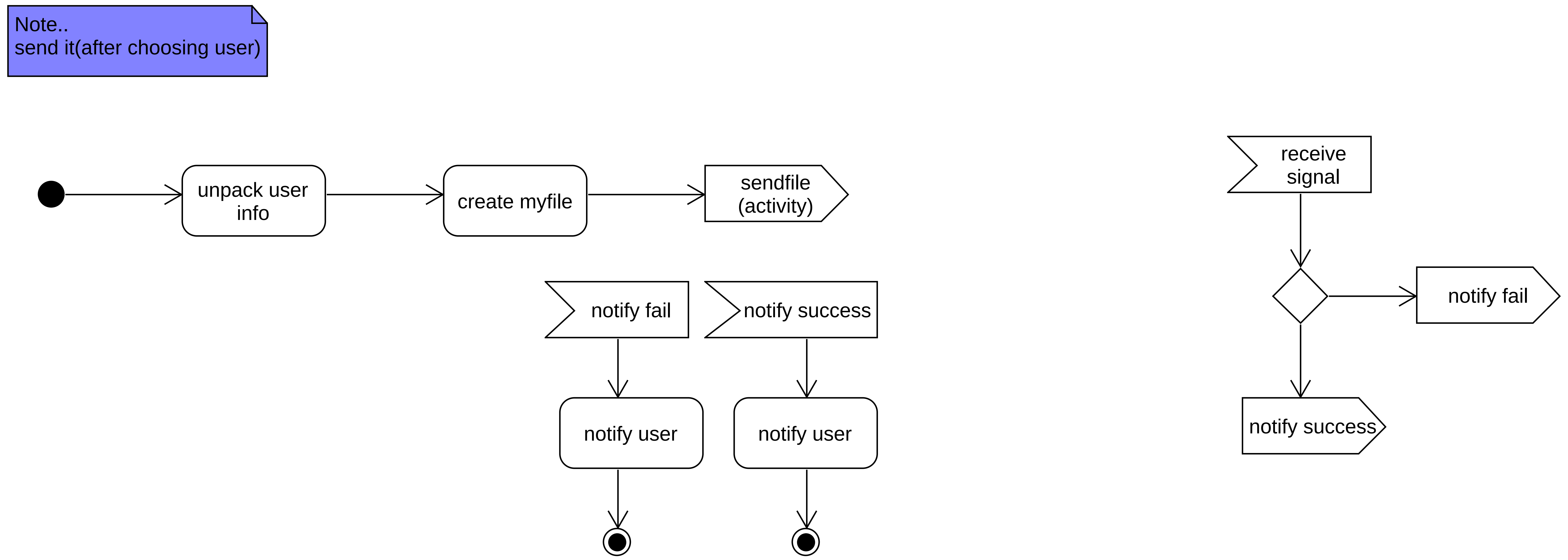
Note..
user side

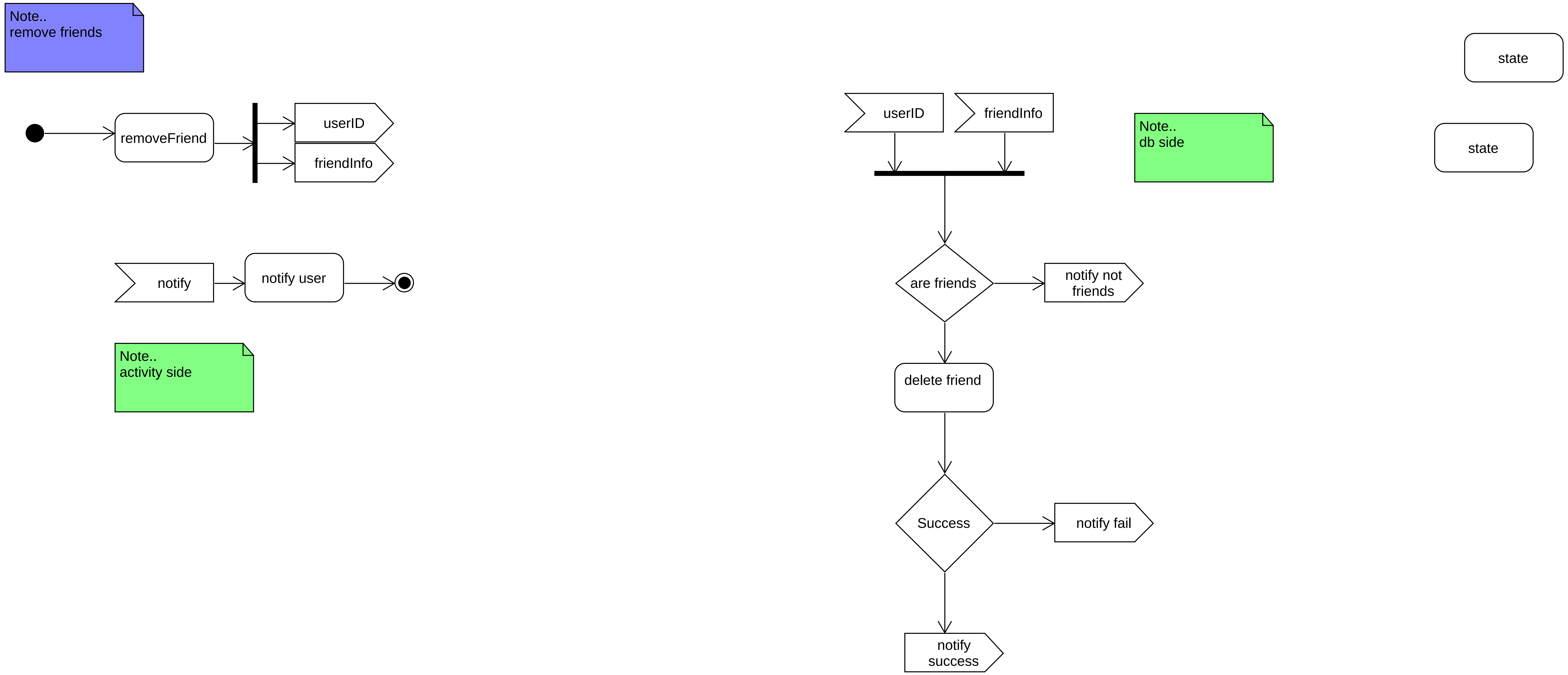
Note..
db side,
hope that we just go through user ID files for those with permissions

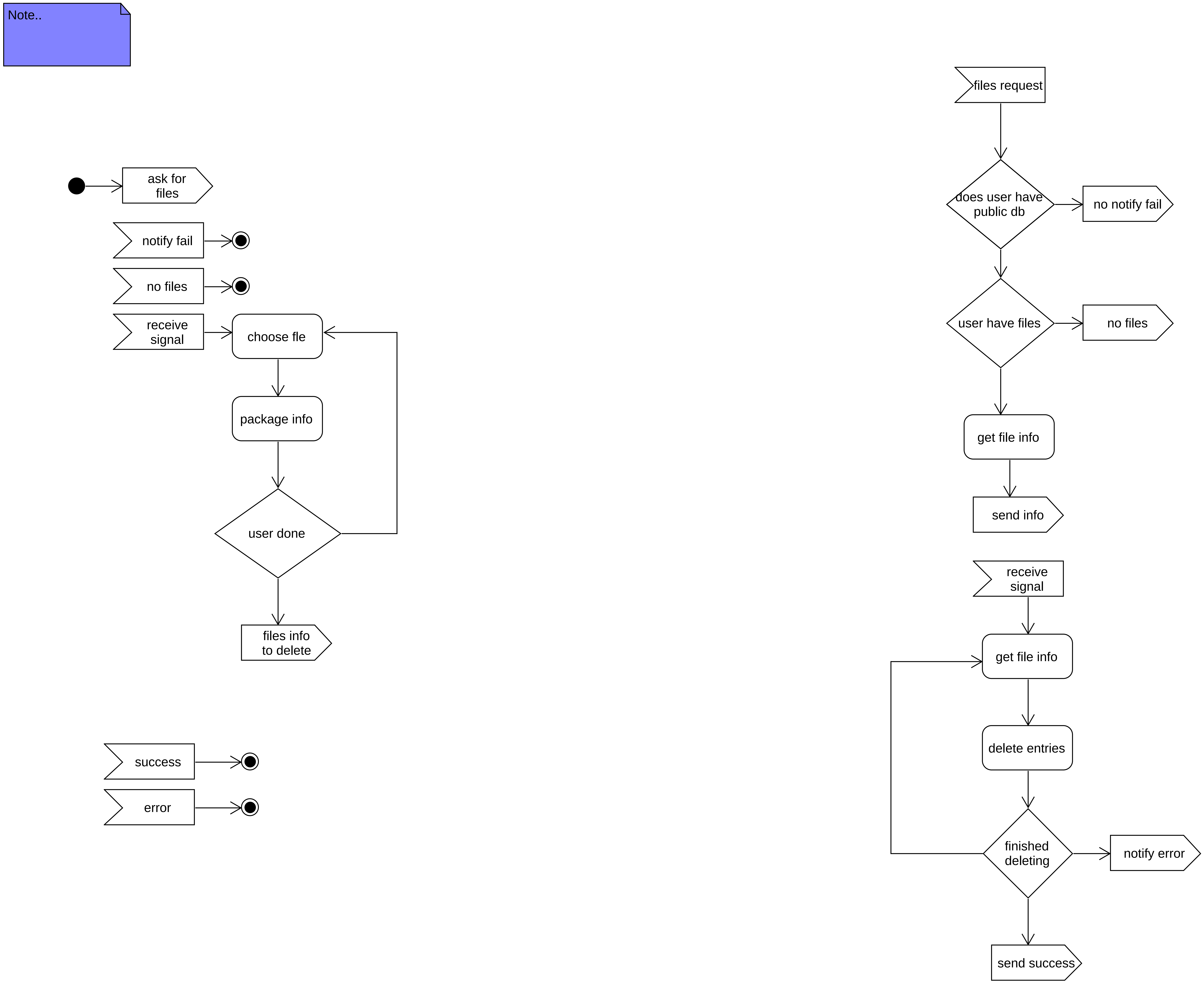

Note..
view all my friends
view friends
no friends
notify
bundle friends
unpack bundle
display information
view friends
no friends
no friends
bundle friend info
send bundle

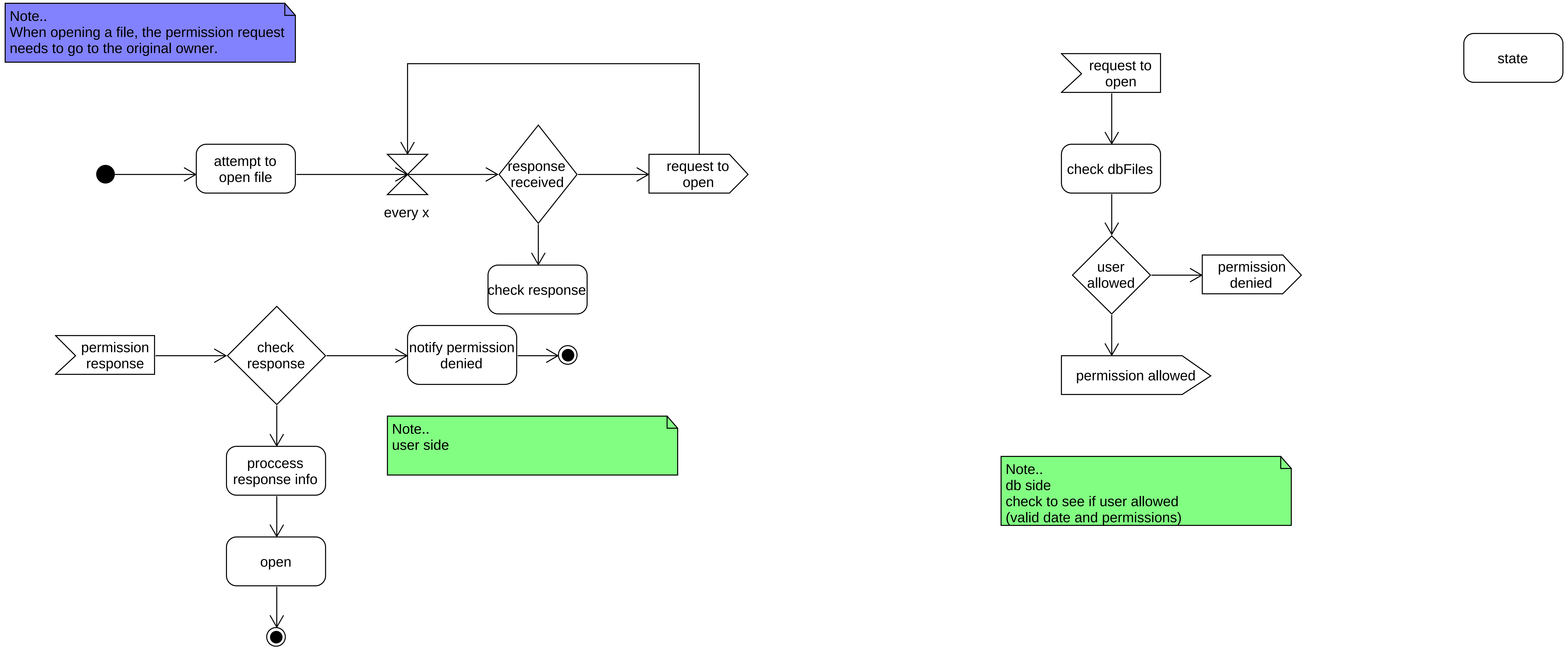

Note..
delete a friend
choose friend to delete
send user info
Note..
maybe enter their email then search friends and delete
not friends
inform user
success
inform user


receive signal
if checking email/bool
not friends
change friend status
success


Note..
send it(after choosing user)
unpack user info
create myfile
sendfile (activity)
notify fail
notify success
notify user
notify user
receive signal
notify fail
notify success

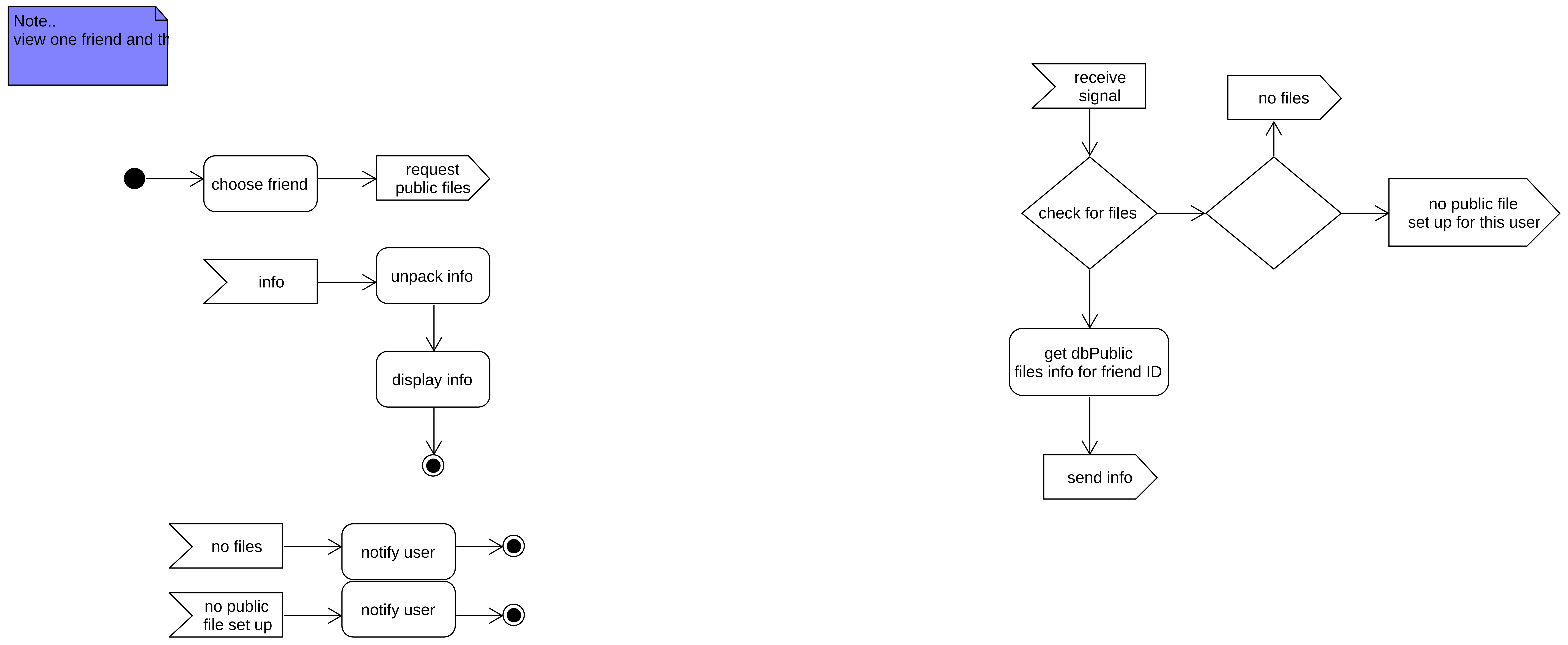

Note..
remove friends
removeFriend
userID
friendInfo
notify
notify user
Note..
activity side
userID
friendInfo
Note..
db side
state
state
are friends
notify not friends
delete friend
Success
notify fail
notify success


Note..
ask for files
notify fail
no files
receive signal
choose fle
package info
user done
files info to delete
success
error
files request
does user have public db
no notify fail
user have files
no files
get file info
send info
receive signal
get file info
delete entries
finished deleting
notify error
send success


Note..
When opening a file, the permission request needs to go to the original owner.

Note..
user side

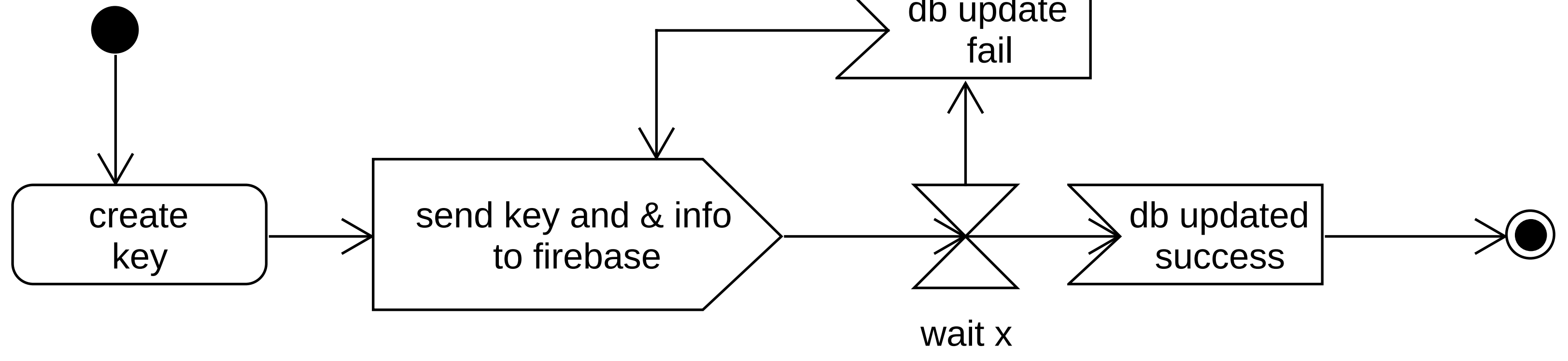
Note..
db side
check to see if user allowed
(valid date and permissions)

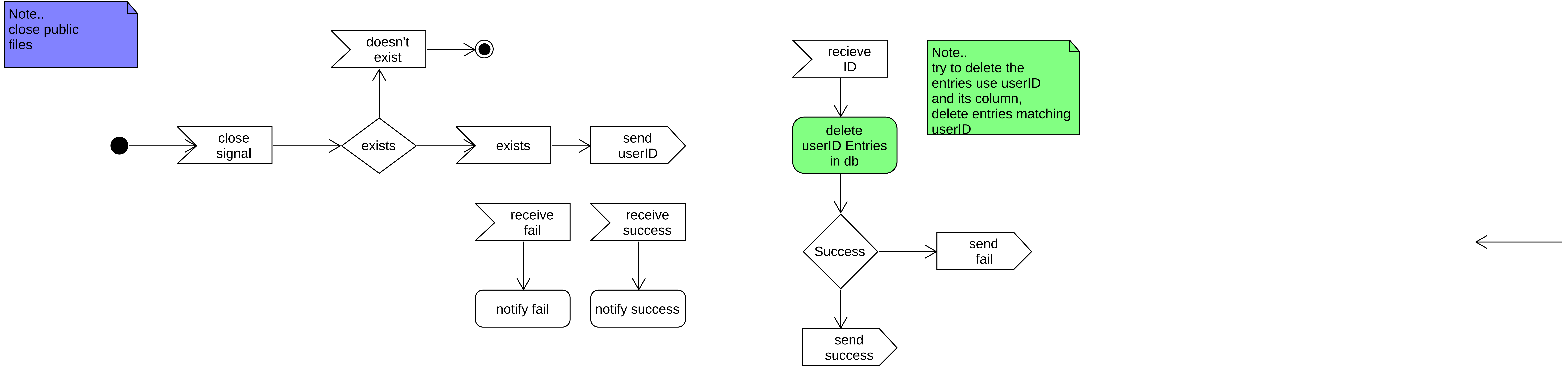

Note..
view one friend and th
choose friend
request public files
info
unpack info
display info
no files
notify user
no public file set up
notify user
receive signal
check for files
no files
no public file set up for this user
get dbPublic files info for friend ID
send info

«PLEASE READ»

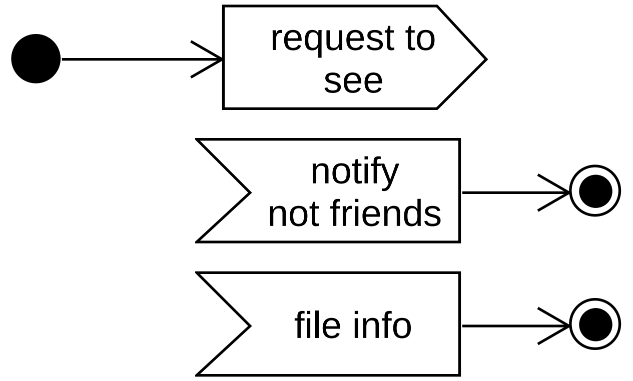
Not too sure how would do currently
If you do, please just add stuff to this diagram and export the pdf

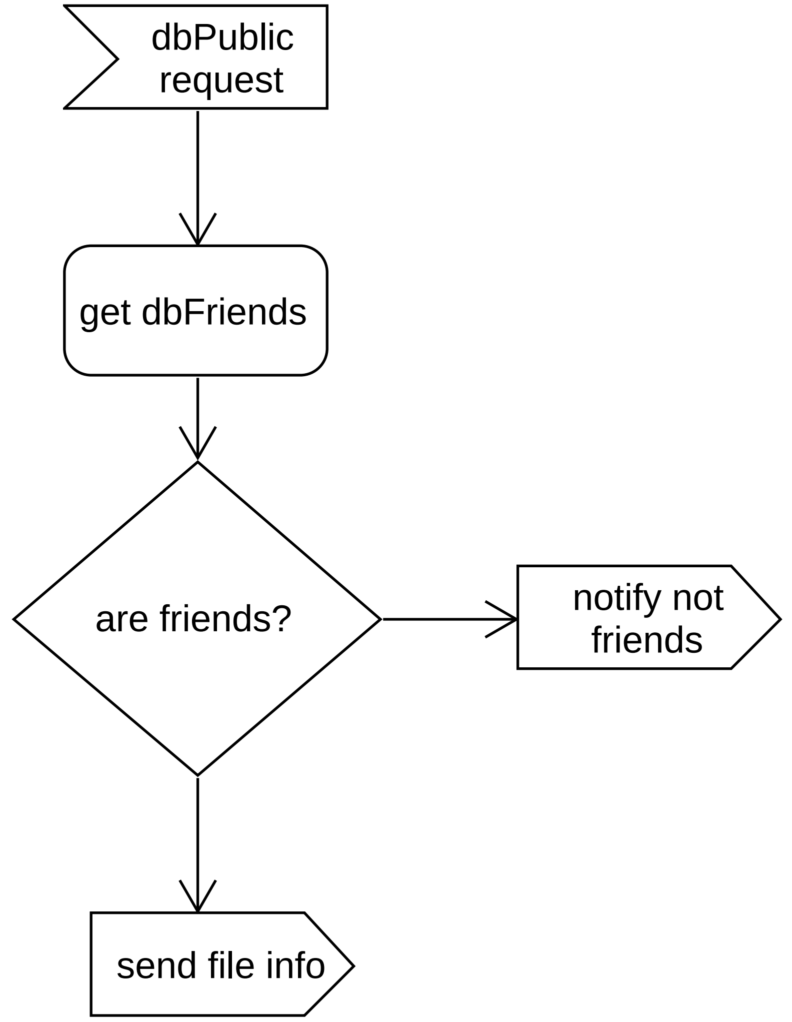
Note..
store keys

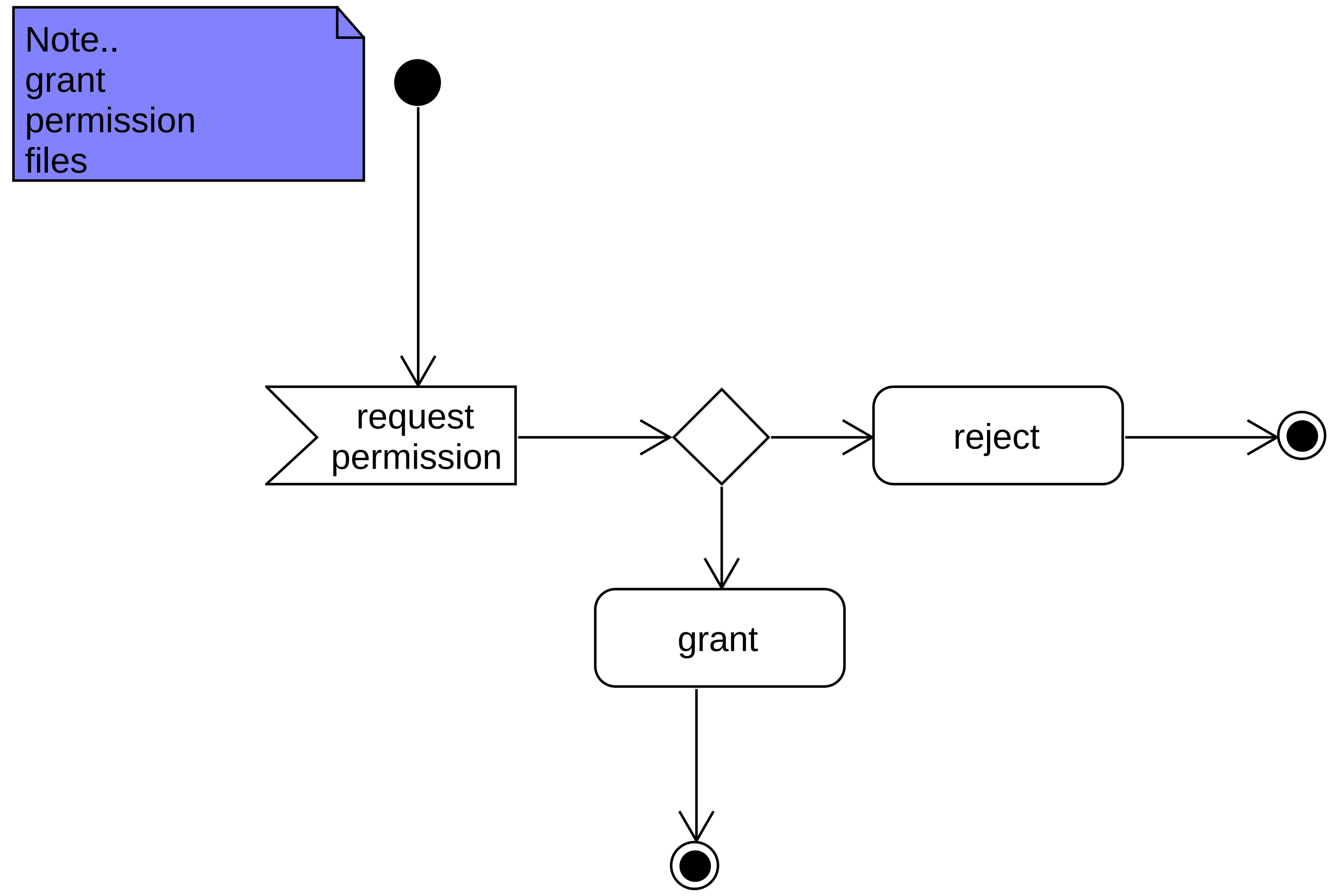


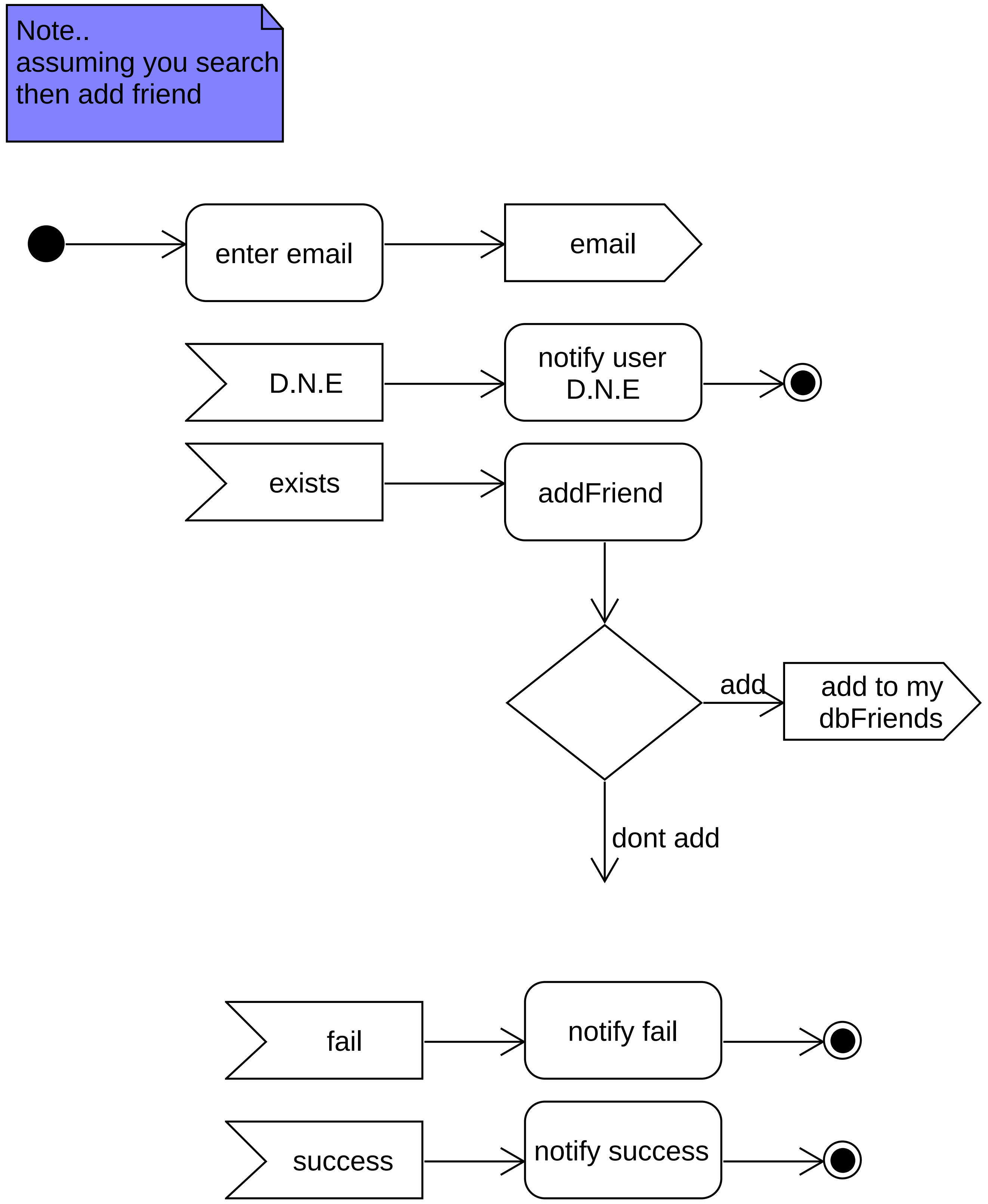

Note..
close public
files
doesn't
exist
close
signal
exists
exists
send
userID
receive
fail
receive
success
notify fail
notify success
recieve
ID
Note..
try to delete the
entries use userID
and its column,
delete entries matching
userID
delete
userID Entries
in db
Success
send
fail
send
success

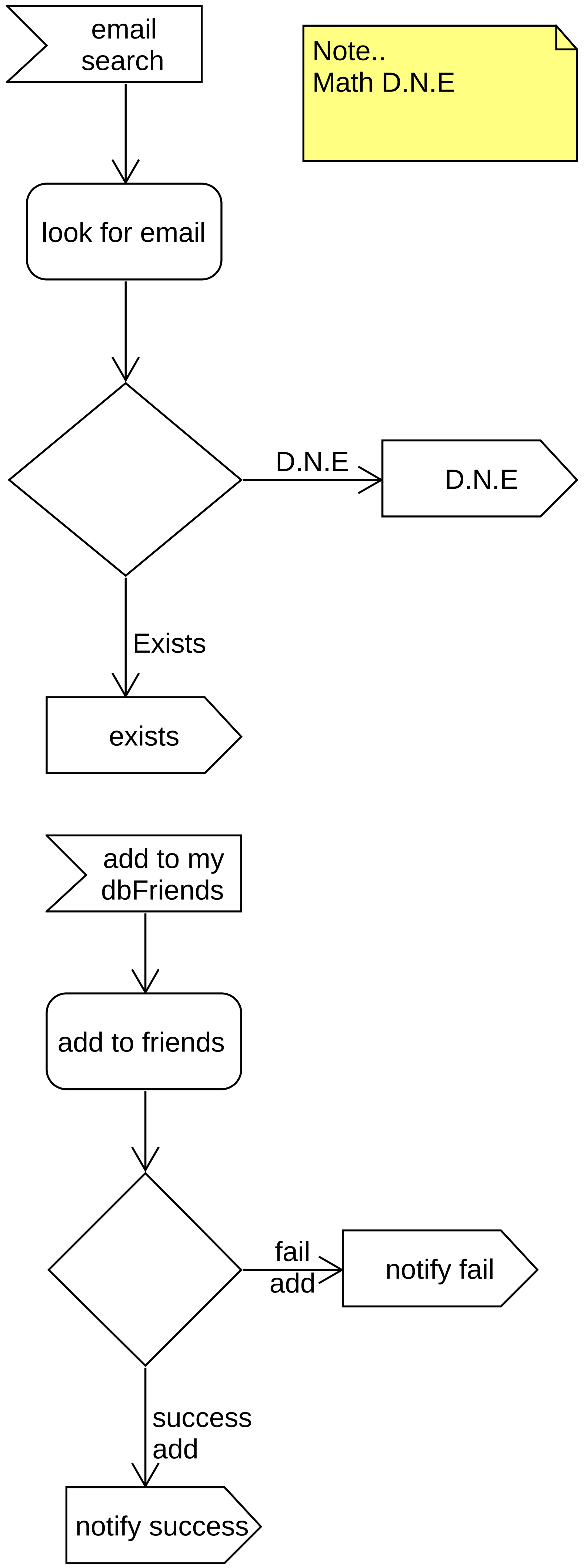
Note..


request to see
notify not friends
file info

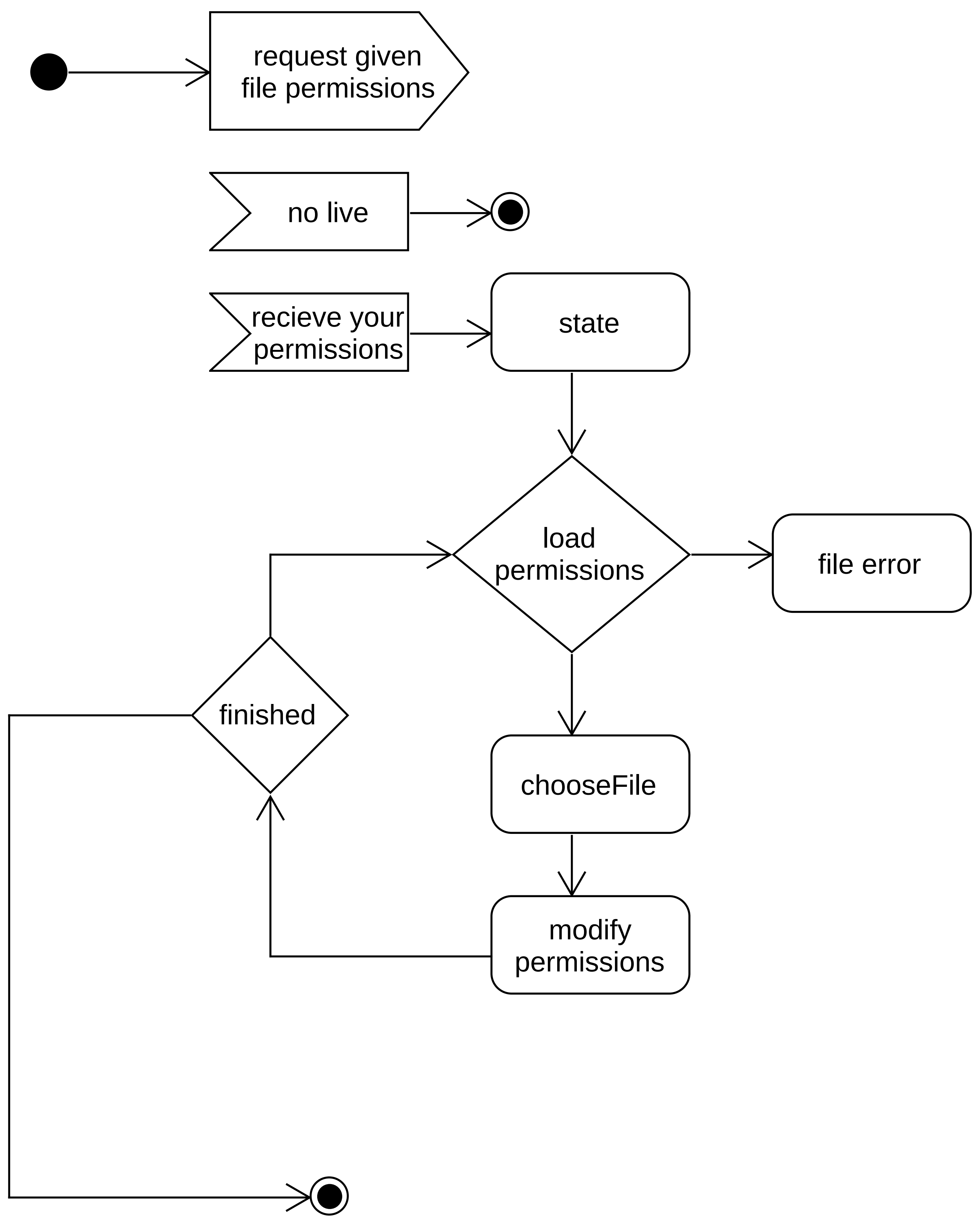

dbPublic request
get dbFriends
are friends?
notify not friends
send file info

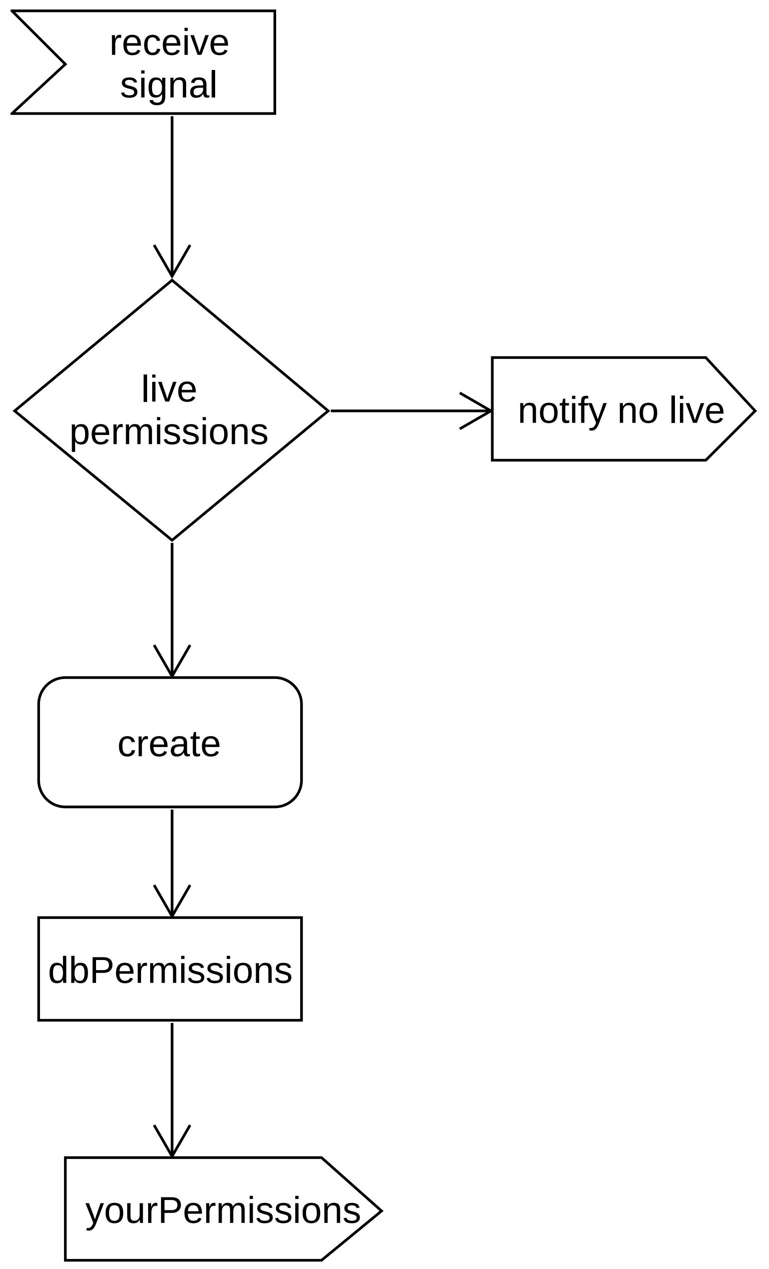

Note..
grant
permission
files
request
permission
reject
grant


Note..
assuming you search
then add friend
enter email
email
D.N.E
notify user
D.N.E
exists
addFriend
add
add to my
dbFriends
dont add
fail
notify fail
success
notify success

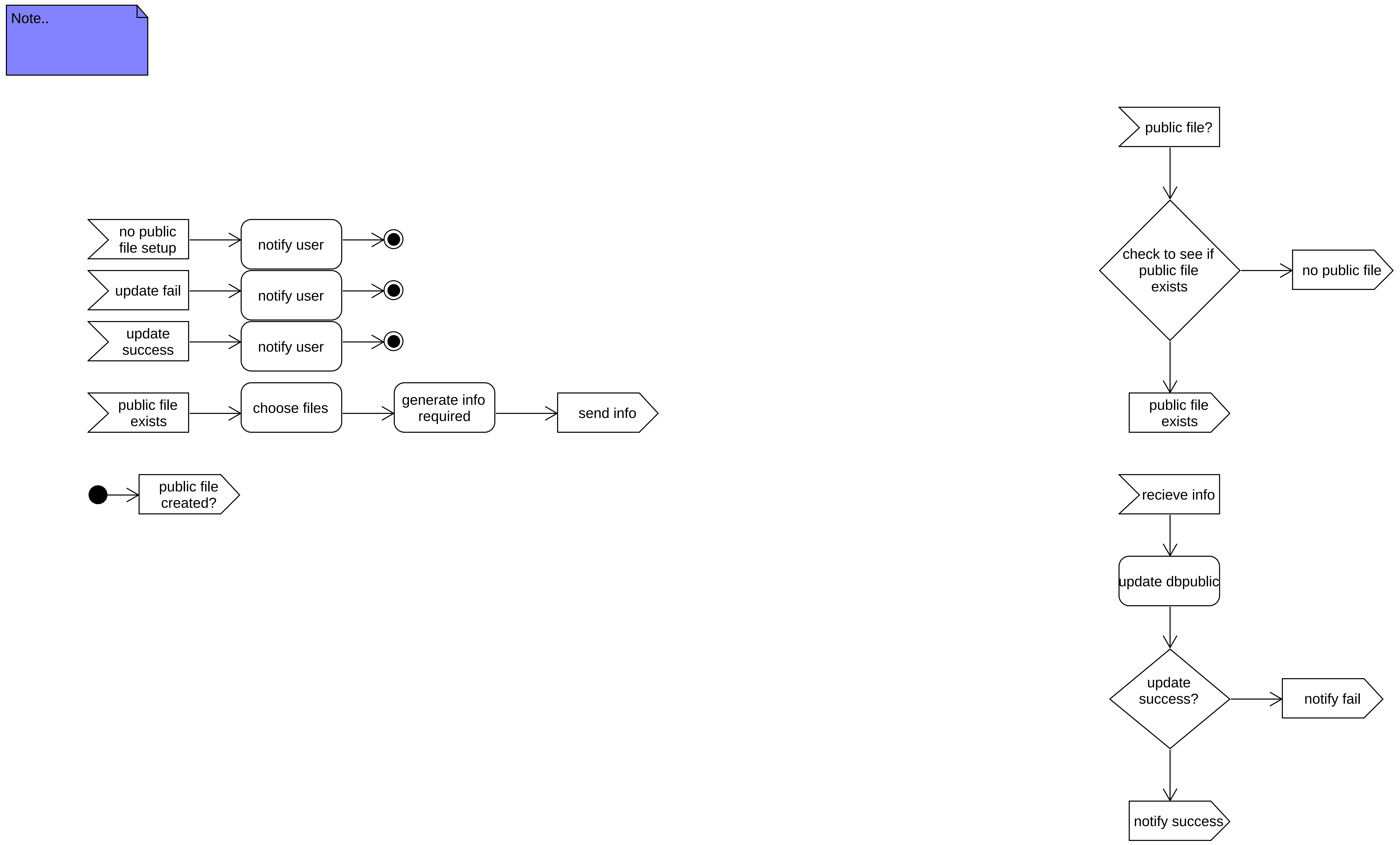

email
search
Note..
Math D.N.E
look for email
D.N.E
D.N.E
Exists
exists
add to my
dbFriends
add to friends
fail
add
notify fail
success
add
notify success

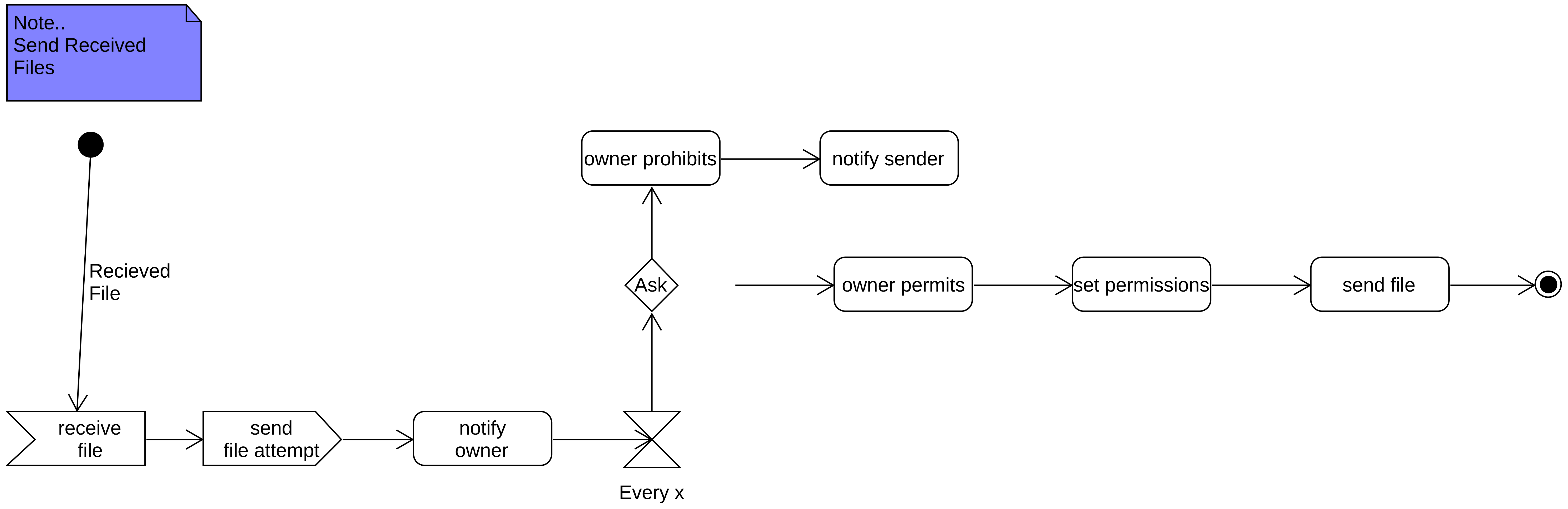
Note..
Be able to give/revoke permission as if I sent the file





Note..
Assuming that we want to send back some form of files and their permissions so that you can tweak them.
object dbPermissions most likely unecessary as could be packaged differently


Note..
no public file setup
notify user
update fail
notify user
update success
notify user
public file exists
choose files
generate info required
send info
public file created?
public file?
check to see if public file exists
no public file
public file exists
recieve info
update dbpublic
update success?
notify fail
notify success


Note..
Send Received
Files
Recieved
File
receive
file
send
file attempt
notify
owner
Every x
Ask
owner prohibits
notify sender
owner permits
set permissions
send file

Note..
This kind of feels like it goes with the
any friend should be able to see my public file
so long as you are friends yours should be available
and theirs should be available.
Will rather think of as a view dbs and select a friend
if they have on load files otherwise notify empty.