Upcycling App System Design Project

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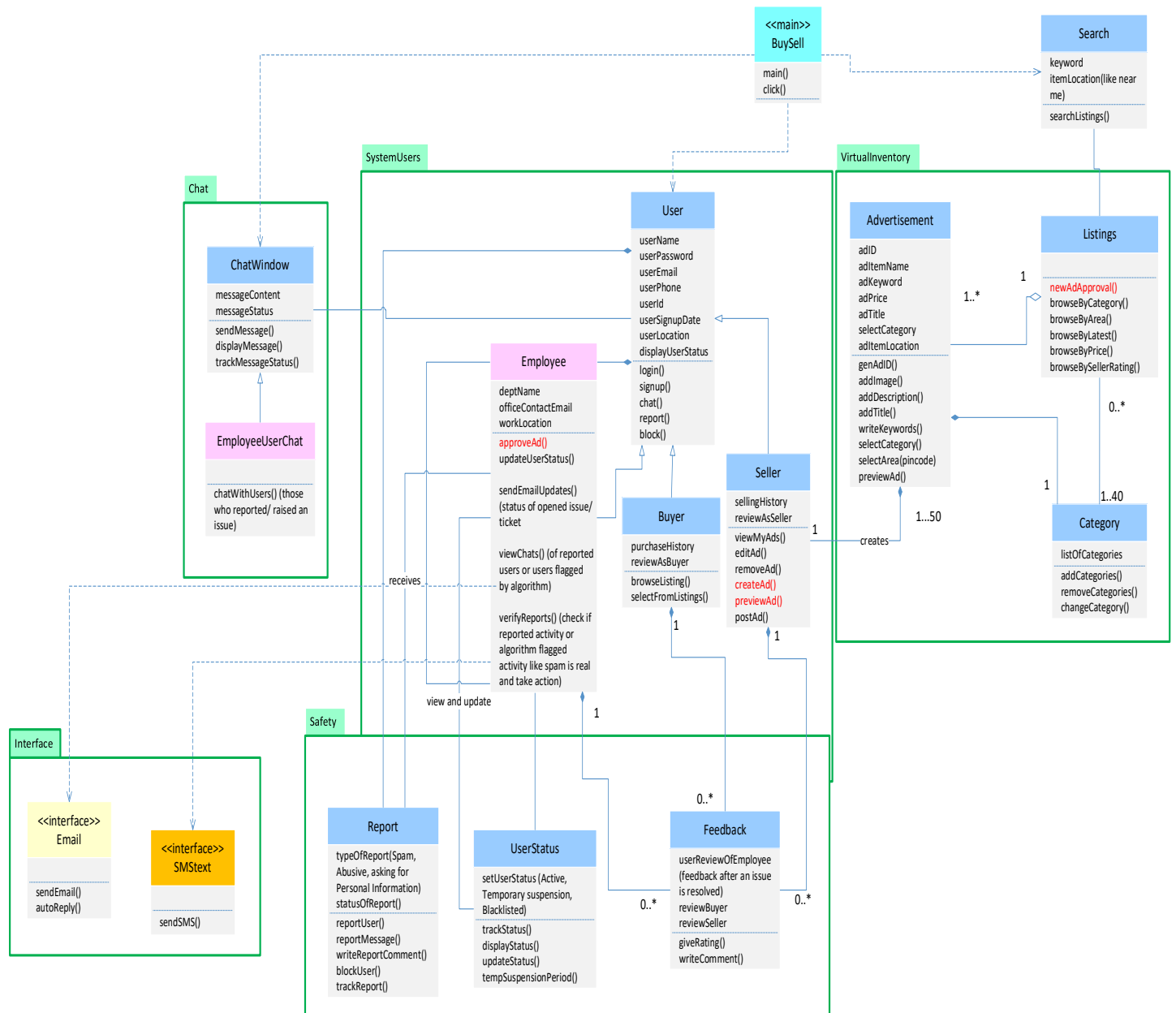# MISSION STATEMENT

BestPurchase is an app where you can buy and sell pre-owned objects. Just click a picture, choose a category, and give a small description and your price. It is a community-oriented app and will find customers from around your area, with whom you can safely chat via the app and finalize the deals. If you want to declutter, are on a tight budget, need some extra cash, or want to buy pre-owned to help our environment and reduce wastage, our app is for you. You can choose the categories for which you want recommendations and get notified, so you never miss a deal.
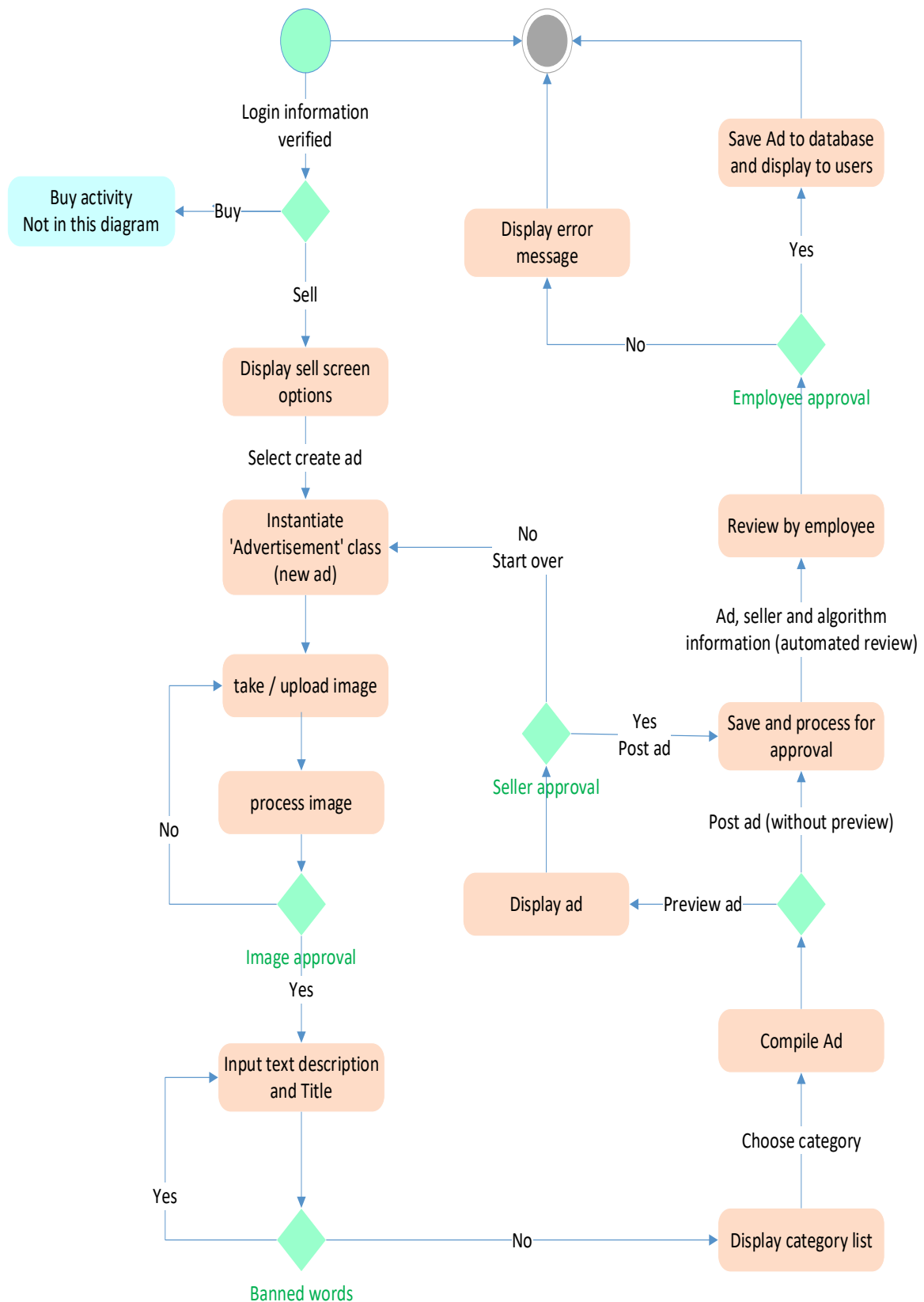
The updated class diagram contains detailed methods which will also be used in our sequence diagram.

<<main>> BuySell
- main()
- click()

Search
- keyword
- itemLocation(like near me)
- searchListings()

Chat

ChatWindow
- messageContent
- messageStatus
- sendMessage()
- displayMessage()
- trackMessageStatus()

EmployeeUserChat
- chatWithUsers() (those who reported/ raised an issue)

SystemUsers

User
- userName
- userPassword
- userEmail
- userPhone
- userId
- userSignupDate
- userLocation
- displayUserStatus
- login()
- signup()
- chat()
- report()
- block()

Employee
- deptName
- officeContactEmail
- workLocation
- approveAd()
- updateUserStatus()
- sendEmailUpdates() (status of opened issue/ ticket)
- viewChats() (of reported users or users flagged by algorithm)
- verifyReports() (check if reported activity or algorithm flagged activity like spam is real and take action)

Buyer
- purchaseHistory
- reviewAsBuyer
- browseListing()
- selectFromListings()

Seller
- sellingHistory
- reviewAsSeller
- viewMyAds()
- editAd()
- removeAd()
- createAd()
- previewAd()
- postAd()

VirtualInventory

Advertisement
- adID
- adItemName
- adKeyword
- adPrice
- adTitle
- selectCategory
- adItemLocation
- genAdID()
- addImage()
- addDescription()
- addTitle()
- writeKeywords()
- selectCategory()
- selectArea(pincode)
- previewAd()

Listings
- newAdApproval()
- browseByCategory()
- browseByArea()
- browseByLatest()
- browseByPrice()
- browseBySellerRating()

Category
- listOfCategories
- addCategories()
- removeCategories()
- changeCategory()

Interface

<<interface>> Email
- sendEmail()
- autoReply()

<<interface>> SMStext
- sendSMS()

Safety

Report
- typeOfReport(Spam, Abusive, asking for Personal Information)
- statusOfReport()
- reportUser()
- reportMessage()
- writeReportComment()
- blockUser()
- trackReport()

UserStatus
- setUserStatus (Active, Temporary suspension, Blacklisted)
- trackStatus()
- displayStatus()
- updateStatus()
- tempSuspensionPeriod()

Feedback
- userReviewOfEmployee (feedback after an issue is resolved)
- reviewBuyer
- reviewSeller
- giveRating()
- writeComment()

receives

view and update

creates

1..* 1 0..* 1...50 1..40 1

6.2 ACTIVITY DIAGRAM

The activity diagram, sequence diagram and pseudocode are for the seller function of – create and post ad.

1. User logs in and the information is verified, otherwise Exit.

2. User selects 'Sell' from home display.

3. Seller has options to – create, edit, view (my ads), and post ads, selects Create ad.

4. This creates a new ad in Advertisement class.

5. System asks to – take/upload pic, processes image.

6. If approved, system asks to write Title and description (text).

7. If approved, system displays category list (40 categories), asks to select one.

8. Once done, system will compile the ad and present options to post ad or preview ad (recommended).

9. Once the ad is previewed, the seller can post ad or start over (new ad).

10. Posted ad will go to an employee for approval. Approval will store the ad in the database and make it visible to all users.

11. Disproval will give an error message with the problem; the seller may exit or start again.
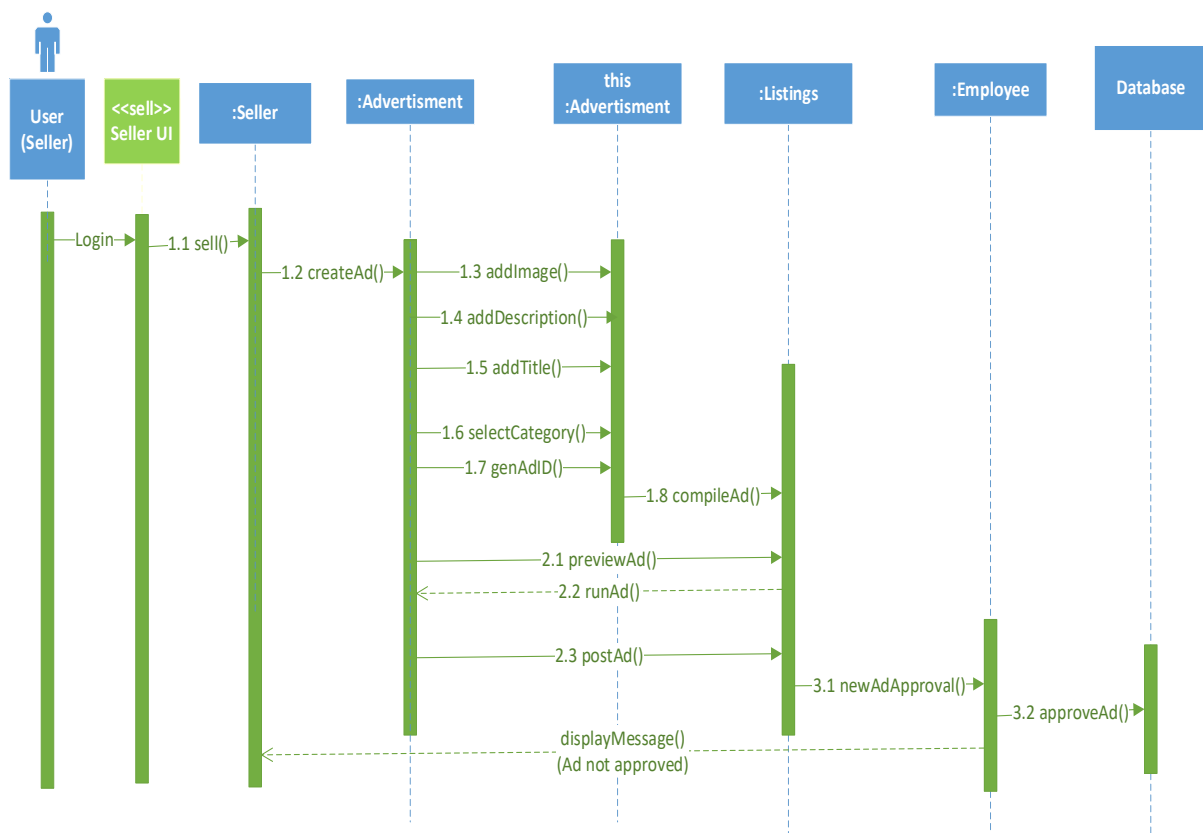
Login information
verified

Buy activity
Not in this diagram ← Buy

Sell

Display sell screen
options

Select create ad

Instantiate
'Advertisement' class
(new ad) ← No / Start over

take / upload image

process image ← No

Image approval
Yes

Input text description
and Title ← Yes

Banned words → No → Display category list

Display error
message

Save Ad to database
and display to users

Employee approval → No
Yes

Review by employee

Ad, seller and algorithm
information (automated review)

Seller approval → Yes / Post ad → Save and process for
approval

Display ad ← Preview ad ← Post ad (without preview)

Compile Ad

Choose category

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6.2.1 FOCUSED SEQUENCE DIAGRAM

The focussed sequence diagram shows the steps for creating and posting an ad by a seller.

There are three major steps –

1. Methods for creating the ad

2. Methods with a compiled (full) ad – preview, post

3. Approval (employee) and store in database, display to users.

6.3 PSEUDOCODE

The following pseudocode is for creating and posting an ad from *BestPurchase* app.

```
IF
        Verification = False // user login credential verification, False – can't login
        Exit
ENDIF
IF Selection = Sell // User selects 'SELL'
        While approved = True // Approval checked sequentially at all steps
                Input image file
                        Check approval // picture approved
                Input text file
                        Check approval // Description and Title approved
                Input selection
                        Check approval // Category selection approved
                Compile NewAd     // Compile ad according to system's style
                Return NewAd      // Return NewAd
                                // we now have a full ad and will proceed to approval steps
                END WHILE


        IF NewAd approved by seller   // seller previews and approves
                Send to employee for approval    // system sends to employee
                        IF NewAd approved by Employee // employee approves
                                Post and display     // Display on app
                                Store in database   // Store in listings database
                        ELSE
                                Display error and exit
                                        // display message with reason for disproval


        ELSEIF NewAd not approved by Seller     // If seller disproves
                Display options – start new ad OR exit


        ENDIF
```