**Project Requirements**

Project Name: [working title]

Team: Team1

Customer: Andrea Caracciolo

Revision History

| Version | Date | Revision Description |
| --- | --- | --- |
| 0.01 | 7.10.2014 | First version after one client talk. |
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Offene Fragen im Moment:

* Ist “Profil betrachten” (eines anderen Users) ein Unter-case von “Inspect Flats”?
* Ist “Manage visits” (und “manage enquiries”) ein Über-case von vielen anderen, z. B. “Visit löschen”, “neuen Visit anlegen”, “Visit verschieben”, “User um Bestätigung fragen” etc.?
* Welches Behaviour ist von User inherited? Ich finde es so stimmig, andere Meinungen? Fehlt etwas im Diagramm?
* Was ist mit der “Detaillierte Suche”-Funktion? Ist das ein Unter-case von “Flats suchen” oder ein eigener use case?
* Sind “Verkäufer (erstmals) kontaktieren” und “Nachricht beantworten” zwei verschiedene use cases von “User kontaktieren”?
* Advertiser und Searcher sind behinderte Namen
* sicher nicht die einzigen…

# Introduction

## Purpose

This project has the purpose of connecting people who are searching for a room in a shared apartment with people who want to rent out such a room. It aims to combine the advantages of classical apartment search platforms with those of platforms tailored to students.

Users can advertise a room and search for such a room.

It will provide extensive searching capabilities while still making a quick search easily possible. Every user will be able to keep track of scheduled on-site visits.

Furthermore users will be able to communicate through a messaging system.

## Stakeholders

The stakeholders of this project are:

• The users, consisting of advertisers and searchers

• The customer. In our case our customer is Andrea Caracciolo

## Definitions

Terms defined for the scope of this project:

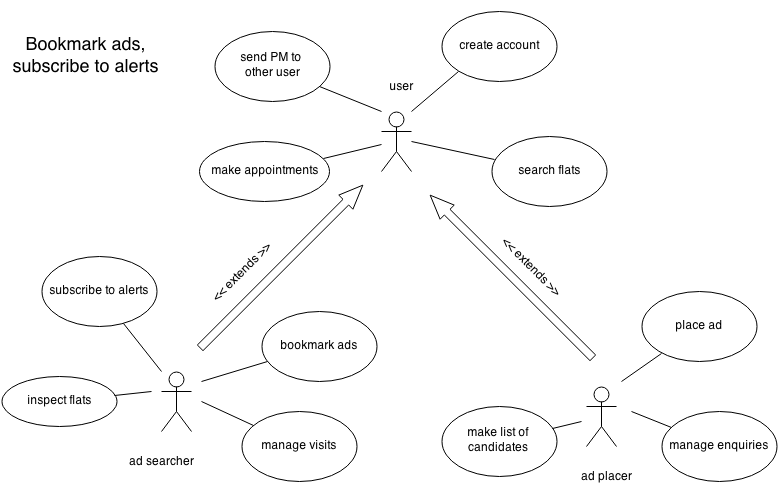
• The advertiser is the user who puts a room or an apartment on the platform.

• The searcher is the user who looks for a room or an apartment on the platform

# Overall description

## Use cases

### Diagram

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### Use Cases

**0. Create Account**

0.1 Actors

Users

0.2 Description

Users - advertisers and searchers both - want to use the opportunities of our platform and create an account.

0.3 Trigger

Visitor enters site and clicks on “create account”

0.4 Pre-conditions

1. No account with the same username or email address exists.
2. User has a valid email address.

0.5 Post-conditions

1. New account has been created in the DB.

0.6 Main Scenario

1. User visits our platform.
2. User clicks on “create account”.
3. User enters desired username, real name, email address.
4. System checks validity of entered data.
5. Enters all the other relevant information (general information about the person)
6. User gets redirected to start page, now logged in.

0.7 Alternative Scenarios

4a. Username already exists

1. User is prompted to enter another username. Continue with step 3.

4b. Email address faulty or already taken

1. User is prompted to enter another email address, or to reset his/her pwd. Continue with step 3.

0.8 Special Requirements

User validation (Step 4) must not take more than 3 seconds.

0.9 Notes

Which characters are allowed in usernames?

Which character types are required in passwords?

**1. Search Flats**

1.1 Actors

Users

1.2 Description

Users enter some criteria of their choosing and are presented with all the flats in the DB satisfying all criteria.

1.3 Trigger

User clicks on “Search Flat”

1.4 Pre-conditions

1. User is properly logged in.

1.5 Post-conditions

1. User now sees a (possibly empty) list of flats.
2. User is shown a list of parameters by which s/he can further parameterise the results. (“detail search” option).

1.6 Main Scenario

1. User clicks “Search Flat”
2. User enters criteria, e.g. location (range), price range, type of rental
3. System checks DB for matching entries.
4. System returns matching entries in a list.

1.7 Alternative Scenarios

2a Minimal price higher than maximal price (maybe fix with an interactive tool that doesn’t allow this behaviour)?

1. System prompts user to re-enter a minimal and maximal price according to the rules. Continue with step 2.

2b User doesn’t enter any data, clicks on “search”

1. System returns all Flats in the DB. Flow continues with step 4.

1.8 Special Requirements

Displaying a list of 100 or less flats with thumbnails and text must not take more than 5 seconds.

1.9 Notes

Is the “detail search” a whole other use case?

**2. Send PM to other User**

2.1 Actors

Users (one advertiser, one searcher)

2.2 Description

A user has found a flat and wants to contact the ad placer. Or such an initial message has already been sent and someone replies to a message in their inbox.

2.3 Trigger

1. Searcher clicks on “contact advertiser” in a displayed ad or user clicks on “reply” when viewing a message in their inbox. Two different use cases?

2.4 Pre-conditions

a1. User is currently looking at an active ad.

b1. At least one message has been sent between the two exact same accounts already.

b2. User is currently looking at one of these already sent messages.

2.5 Post-conditions

1. A copy of the sent message text is saved both in the sender’s “sent” folder as well as in the receiver’s “new messages” folder.
2. An email has been sent to the receiver’s email address informing him that he got a message.

2.6 Main Scenario

a1. User clicks on an ad for a flat.

a2. User clicks on “contact advertiser”.

a3. User enters text message *and maybe additional data (cell nr.?)*

a4. User clicks “send”.

a5. System validates input (non-empty message, valid cell nr. format etc.)

a6. System notifies sender that the message has been sent, and notifies the receiver.

b1. User clicks on “messages”.

b2. User clicks on one of the messages.

b3. User clicks on “reply”.

b4-7: see a3-6.

2.7 Alternative Scenarios

a5a: User doesn’t enter any text in message field.

1. System prompts user to enter text in message field. Continue with step a3.

a5b: User enters invalid cell phone number.

1. System prompts user to enter a valid cell phone number. Continue with step a3.

2.8 Special Requirements

Message must not be longer than 1’000 characters. Cannot contain images or files.

Every message and every reply must be connected to exactly two users.

2.9 Notes

Are the two cases (first contact/answering a message) two different use cases? I would say yes. Although you share common part structures, the case is a different one.

**3. Make Appointments**

3.1 Actors

Users (one advertiser, one searcher)

3.2 Description

An advertiser and a searcher have communicated via messaging system (or email or other) and found a date for the searcher to visit the flat. Now they want to enter that date into a calendar.

3.3 Trigger

One party clicks on “add visit to calendar”.

3.4 Pre-conditions

1. Both users must have communicated and reached a date fitting in everyone’s calendar. Who decides that? The users themselves?

2. One of the users must have placed an ad (for the flat in question).

3. At least one message must have been sent via the messaging system. Why?

4. Both users must have an open slot in their calendars at the same time.

3.5 Post-conditions

1. Both users now have an entry in their respective calendars at the same position.

3.6 Main Scenario

1. User 1 (role not important) clicks on “schedule visit”. This button is visible in the messaging system and in the calendar view.
2. User 1 enters relevant data (date, time and duration). User 1 also searches a dropdown menu of all the ad placers’ placed flats and selects exactly one.
3. System checks both users’ schedules, validates date.
4. System sends message to User 2 concerning the visit.
5. User 2 approves the suggested visit specs.
6. System adds a date into both users’ respective schedules.

3.7 Alternative Scenarios

2a. None of the users has any flats or rooms for rent.

1. System returns an error message. Flow terminates.

3a. User 1 is not vacant at the proposed date & time.

1. System returns an error. Flow starts again at 1.

3b. User 2 is not vacant at the proposed date & time.

1. System sends a warning to User 2.
2. User 2 can choose: Find another date (return to Flow at position 1, with the User 2 being the new User 1), or move the pre-existing date.
3. In the latter case: Date is entered into system, and User 2 is redirected to step 1 of the flow (as User 1) with the user he formerly had a visit with.

5a. User 2 doesn’t approve the appointed date and time.

1. Flow starts again at 1, with User 2 being the new User 1.

3.8 Special Requirements

1. A calendar has to be implemented. Graphical would be nice, so that overlaps can be evaded extra easily.

3.9 Notes

The system should check for alternative scenario 3a before 3b (will also be followed if neither user is vacant at the time.)

**4. Inspect Flat**

4.1 Actors

Ad searcher

4.2 Description

An ad searcher has found a flat with a compelling enough title and basic information and wants to find out more about it.

4.3 Trigger

Ad searcher clicks on an ad in a non-empty search list.

4.4 Pre-conditions

Ad searcher has performed a flat search before. (too much restriction? What about a link)

The flat search has yielded at least one result (flat).

4.5 Post-conditions

The ad searcher is now looking at the ad page of one individual flat.

4.6 Main Scenario

1. Ad searcher clicks on a flat in a flat search results list
2. System shows user the page of the individual flat/room.
3. Criteria shown are: (sure) price, location, floor, square feet, available from/to, flatmates, (maybe) diverse categories like “washing machine yes/no” etc.

4.7 Alternative Scenarios

Clicking on a flat is rather straightforward, there are no alternative scenarios.

Retrieving Information from DB not possible. Showing error message and redirecting to the main search window.

4.8 Special Requirements

The flat page including all pictures must load in no more than 3 seconds.

4.9 Notes

We have not yet handled flatmate profiles. So far, we treat them as one among many data fields.

**5. Manage Visits**

5.1 Actors

Users

5.2 Description

All users have a calendar function where they can see all the appointments they have made so far.

5.3 Trigger

User clicks on “calendar”.

5.4 Pre-conditions

User is logged in.

5.5 Post-conditions

User is now looking at a calendar with all the dates entered so far.

5.6 Main Scenario

1. User clicks on “calendar”.
2. User can now search the calendar by date, time, users, keywords, each returning a list of visits.
3. In order to schedule a new visit, use case 3 is activated.

5.7 Alternative Scenarios

Not much can go wrong here.

5.8 Special Requirements

Loading times for both single visits and the whole calendar must be reasonably quick (less than 2 seconds each).

5.9 Notes

**6. Bookmark Ads**

6.1 Actors

Ad searcher

6.2 Description

User wants to bookmark interesting ads

6.3 Trigger

In the detailed description of an ad, user clicks on "bookmark ad"/“safe for later”

6.4 Pre-conditions

1. User is logged in
2. Ad searcher has performed a flat search before. (too much restriction?)
3. The flat search has yielded at least one result

6.5 Post-conditions

1. The advertisement has been correctly added to the ad searchers' bookmarks

6.6 Main Scenario

1. Ad searcher clicks on an advertisement in a list of a search result
2. Ad searcher clicks on "bookmark ad"
3. System ads ad for this user to the DB
4. (In case we display the ads somewhere in the current site: System updates the rendering of the ads)

6.7 Alternative Scenarios

None (in case we allow unlimited ads)

What about an ad being deleted at the very moment, or if the ad has been deleted 5min ago but no refresh has taken place? Show error message and redirect to last window.

6.8 Special Requirements

1. Limit ads?

6.9 Notes

1. 6.3: Should there also be a "bookmark ad" button in the list of a search-result next to the corresponding ad?
2. Precondition 1: If user is not logged in, we would have to save these information about the bookmarks in his browser, correct? (probably complicated)

**7. Subscribe to Alerts**

7.1 Actors

Searchers

7.2 Description

Users searching for a flat don’t want to visit the site every day to see if there’s a new ad fitting their criteria. They might want to save those criteria and be notified automatically when a new ad matching them is entered.

7.3 Trigger

1. After having performed an ad search with certain parameters (see use case 1), the searcher clicks “subscribe to alert”. The current criteria are already filled into a form, but can be modified there.
2. A logged in searcher clicks on a button “subscribe to alert”. An empty mask appears, and the searcher enters her preferences.

7.4 Pre-conditions

a1. User is logged in.

a2. User has just performed a flat search, is now shown a list of results.

a3. User has entered a valid email address beforehand.

b1. User is logged in.

b2. User has entered a valid email address beforehand.

7.5 Post-conditions

a/b. System shows a confirmation that the searcher is now subscribed to an alert.

a/b. User is now subscribed to an alert.

7.6 Main Scenario

7a. User subscribes to an alert identical to a search she just executed.

1. User searches for flats by certain criteria (see use case 1).
2. When being shown the results list, the user clicks a button named “subscribe to alert”.
3. System shows user an input mask where she can specify all the searchable items of the search function. The specifications previously searched by are pre-entered, but changeable.
4. User enters data into input mask.
5. User clicks “subscribe”.
6. System creates an alert for the given search specifications, puts user on alert list.
7. System confirms the successful entry on the alert list.

7b. User subscribes to alert from main menu, i.e. without first performing a search.

1. User clicks on “subscribe to alert”.
2. System prompts user to fill out an empty search mask.
3. Continue flow at 7a.4.

7.7 Alternative Scenarios

7c. User enters invalid data in mask

1. See error handling in use case 1 (“searching for flats”)

7.8 Special Requirements

Performance: Whenever a new flat is entered into the database, all alert patterns must be checked and, if the criteria therein are met, emails must be sent out. Not more than one minute shall pass between entering a flat into the database and sending out an alert email.

7.9 Notes

We should give some thought to the fact that we now have to almost, but not totally identical use cases (subscribe after search/from main menu). Allow only one? Define a second use case?

Further it may be a performance issue if we have 1000s of subcribers listening to every single new entry. May be we generate a list according to the specs and send it daily to the user?

**8. Place Ad**

8.1 Actors

Users (Advertisers)

8.2 Description

A user wants to place an ad for advertising a room in a shared apartment.

8.3 Trigger

A registered user clicks on "create ad"

8.4 Pre-conditions

1. User needs to be logged in, visitors can't place ads

8.5 Post-conditions

1. New ad has been created in the DB.

8.6 Main Scenario

1. User browses to the home directory of our platform
2. User clicks on "create ad"
3. User fills out the form consisting of duration (starting point and an optional end point), price per month, Region (necessary for the short description for search-results), room description, pictures, preferences (e.g. a girl apartment looking for girls only), square footage, roommates (gender, age or even user profile), animals, smokers
4. User clicks on "place ad"
5. System checks validity of entered data
6. User is shown a confirmation that his ad has been placed

8.7 Alternative Scenarios

5a. Mandatory fields were left blank / filled with invalid input

1. User is prompted (typically with red font) to enter valid input.

Continue with step 3.

8.8 Special Requirements

1. Input validation (Step 5) must not take more than 5 seconds.
2. Step 5a: Valid input should remain in the form (must be probably saved and reentered by us)
   1. Notes

* Point 3 in main scenario isn't final yet I guess (which fields are mandatory etc.)
* For sites like wgzimmer.ch, one doesn't need to be registered (the ad placer can write his address, name, phone etc. directly in the form). How do we handle it? Registration mandatory or not? If not how do we implement the calendar? Doodle like? Google like?
* For a studio, it would probably make sense to use a separate form since many points such as smokers, animals, roommates etc. are not existent

**9. Manage Enquiries**

For now, we treat “manage enquiries” the same way as “manage visits”, which already offers an interface for both searchers and advertisers.

More clarification is needed, though.

I think we should try not to overload the webpage with functionality. PM system and Calendar should be sufficient?

**10. Make List of Candidates**

10.1 Actors

Users (advertisers)

10.2 Description

The ad placer wants to compile a list of his most promising candidates.

10.3 Trigger

User enters the internal message system and clicks on „add contact to favorite candidates“ or user browses to one of his advertisements and clicks next to the list of favorite candidates "add candidate"

10.4 Pre-conditions

a1. User is logged in

a2. User has at least one conversation (too much restriction?)

a4/b1. User has at least one advertisement

b2. User has at least one conversation / one contact. (too much restriction?)

10.5 Post-conditions

The list must be properly extended by the added candidate

10.6 Main Scenario

a1. User visits internal message system.

a2. User selects a conversation. (too much restriction?)

a3. User clicks on "add user to favorite candidates"

a4. User selects one of his current advertisements

a5. User clicks on "add candidate"

b1. User visits one of his advertisements and browses to the list of favorite candidates

b2. User clicks on "add candidate"

b3. User chooses one of his contacts (only contacts he added or all users he had a conversation with lately?)

b4. User clicks on "add candidate"

10.7 Alternative Scenarios

a4: User has no advertisements.

1. Button "add candidate" isn't clickable, only the "cancel" button is.

b3: User has neither added contacts nor at least one conversation.

1. Button "add candidate" isn't clickable, only the "cancel" button is.

10.8 Special Requirements

Nonfunctional requirements:

1. The list is limited to 20 candidates

10.9 Notes

Are the two cases (add contact in message system/add contact at the advertisement) two different use cases?

Why does it need to go through the message system? I think it should be possible to add people to the favourites by looking at their profile. Otherwise there must be irrelevant mails no one really wants.

## Actor characteristics

The typical users of this platform can be divided into two groups:

* Searchers: searchers will probably be mostly students or young adults doing apprenticeships. They cannot spend too much money on an apartment and therefore look for a room in a shared apartment. Most of them will be rather young and thus quite proficient in using the internet. Because of that, an online platform for searching for these rooms is a good fit for this target audience.
* Advertisers: the advertisers can again be split up into two groups:
  + Users looking for a roommate: these users are similar to those from the first group, with the exception that they already have a room or an apartment and are looking for one or several roommates to complete the group
  + Apartment owners: these users are owners of (small) apartments which they want to rent to someone. They will not live in the apartments themselves

1. Specific requirements
   1. Functional requirements

Overview of the functions that should be implemented throughout the course of this project (see the use cases for more detail):

• Search available flats/rooms: the user should be able to search through the available advertisements

• Messaging: send private messages to other users to allow communication with them

• Manage on-site visits: both searchers and advertisers need to manage on-site-visits

• Bookmarking: searchers have the possibility of bookmarking interesting advertisements for later

• Alerts: users should be able to subscribe to alerts which result in notifications

• Placing an ad: advertisers can place an ad on the platform

• Enquiries: searchers should be able to send enquiries to the advertiser, while the advertisers can manage these enquiries

• Candidate list: advertisers can keep a list of the promising candidates for an advertisement

* 1. Non-functional requirements

• A user new to the platform should be able to start using it within 5 minutes

• If a searcher tries to find an apartment, the initial search should be very easy. There should not be a lot of properties that are mandatory to be entered. Only then can the user, if desired, filter the apartments further.