**Requirements specification/requirements analysis: (max 2 Pages, 12p)**

**What roles are there?**

User (which can act as both host and/or guest)

**What actions do these roles perform?**

Always: create profile, provide email/phone number, name, bio.

As Host: users provide housing information (address, amenities, size, price, photos), rate guests.

As Guest: search and compare houses, book houses, rate the experience.

**Which data and functions are required?**

What entities am I planning to use:

Address, Amenities, User, Languages, Bookings, Properties, Reviews, Profile, Countries, Cities, Location, Message, Available Rooms, Accessibility, House Type, Payment, Calendar, Images

Plus a number of relational tables that coordinate and link the above mentioned entities with each other

What attributes are saved within each entity:

Address: the address relation contains the addresses of all listed properties. this includes country (another relation), city (another relation) and the postal code, street name and house number.

Country: as previously mentioned, this relation is used to provide all countries the business is operating in.

City: same as the country relation, just for cities. see above.

Amenities: all the amenities that are part of a property are listed here (this can include things such as a pool, wifi, a kitchen, washing machines/dryers, AC etc).

User: the user relation is one of the core tables and provides the primary key user id alongside name and email.

Languages: the languages in which users can contact other users and in which hosts can respond to requests about their listed properties.

Bookings: any and every booking that happens gets saved in this table. attributes include the guests and the hosts user id as well as a link to the rented property.

Reviews: after a stay guest and host can rate their respective experiences with each other and the property.

Profile: these are the publicly available profiles that can be seen by anyone on the website, including name and a (short) bio alongside links to languages (for requests) and (potential) properties.

Location: this is a relation connected to the properties displaying what kind of location experience potential guests can expect (e.g. beach house, mountain cabin, off the grid, etc).

Message: all messages are saved here (at least for a while) alongside sender, recipient, and message body.

Available rooms: here a properties rooms will be saved (e.g. bedrooms, bathrooms, beds).

Public transport accessibility: this provides certain tags for a property according to how easy it is to reach (airport, train, bus, walk distance).

House type: stores different house types that can be linked to properties, including house, mansion, hotel, flat.

Payment: stores transaction details with links to property, booking, host and guest along with the date and value of payment.

Calendar: stores prices per night depending on time of year alongside available days.

Property images: stores images and links them to the respective properties.

Functions:

I will need functions to create and insert data to fill the above mentioned tables with the describes attributes. In addition to filling the DB with dummy data, for it to work on a daily bases I need:

* a function that lets a new user join the platform (sign-up) and stores their information
* and a function that allows editing of user information
* a function that lets users add their property and make it available for booking
* and a function that allows editing of property/listing information
* a function that lets users search for listed properties (with all kinds of potential filters)
* a function that stores data once a user books a property
* two functions that stores data according to user review of 1.the property and 2.the guest

ERM: (20+ entities, 2-3 triple relationships (join over 3 tables), may contain recursive relationships, specify all cardinalities (e.g. Chen notation), short description of your current attributes in a data dictionary (name, data type))

**Description of my work (steps within this phase: problem scope, solution idea, etc) (half page, 12p):**

The task is to create a database