

Coffee Management System

Use Cases



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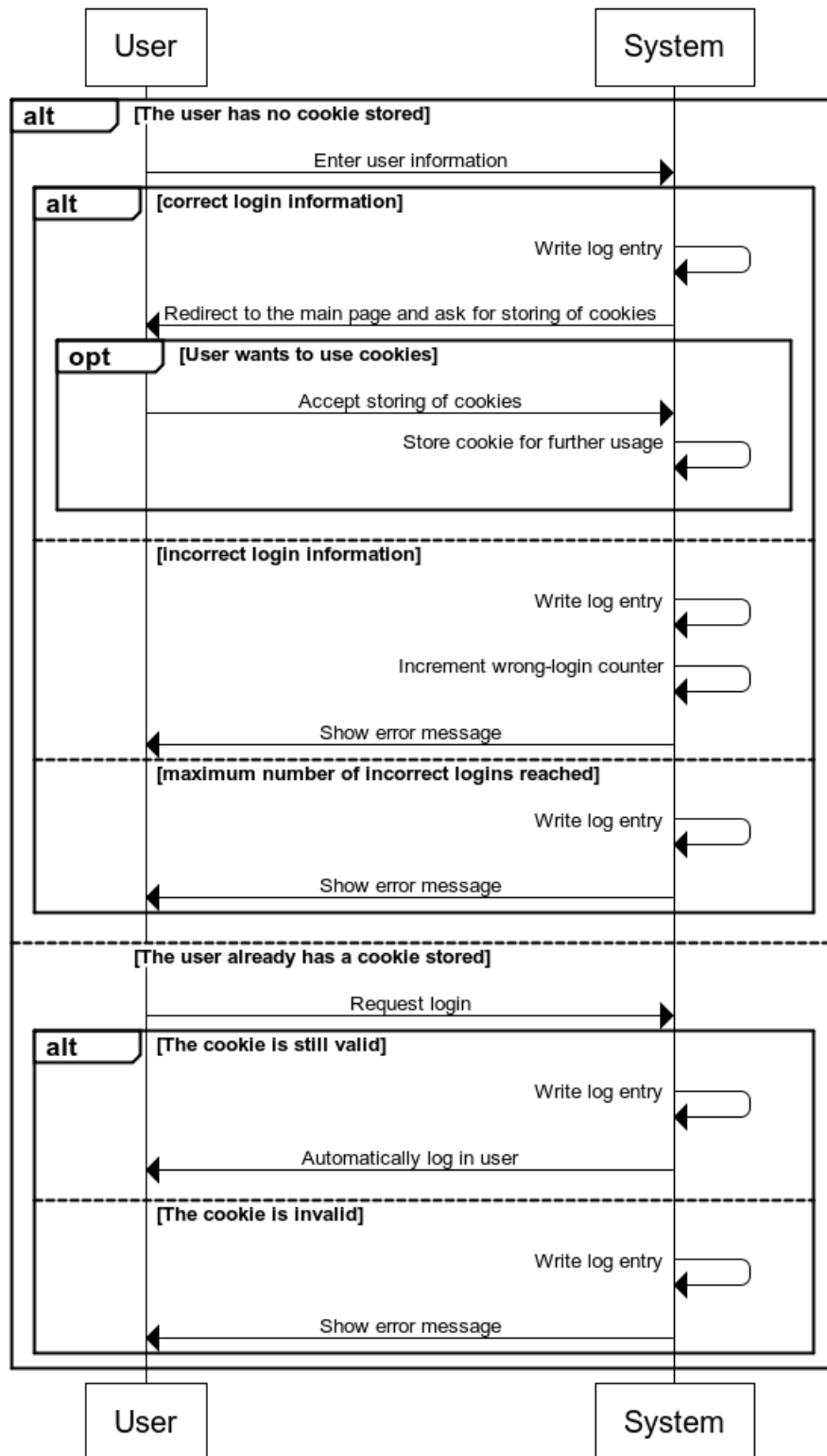
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1 User Login

Description	The users go through this use case whenever they want to access any of the user interfaces. After logging in the user should be redirected to the main page of the application.
Actors	User
Preconditions	The application is started
Basic Flow	<ol style="list-style-type: none">1. The user types in the username and password.2. The system logs in the user.3. The system writes a log entry for the activity of the user with the current time and date.4. The system asks if the user wants to store a cookie.5. The user accepts and a cookie is stored for further usage.
Alternate Flows	<ol style="list-style-type: none">1 a) The user already has a cookie in store.<ol style="list-style-type: none">1. The system checks that the cookie is still valid.2. The system logs in the user automatically.3 a) The user declined the storage of a cookie.<ol style="list-style-type: none">1. The system does not store a cookie for further usage.
Exception Flows	<ol style="list-style-type: none">2 a) The entered password is incorrect.<ol style="list-style-type: none">1. The system shows an error message.2. The user returns to 1.2 b) The maximum number of wrong password entries has been reached.<ol style="list-style-type: none">1. The system shows an error message.2. The use case exits.3 a) The cookie is invalid or expired.<ol style="list-style-type: none">1. The system notifies the user that the cookie is invalid.2. The user is sent to the login page and needs to enter the username and password to continue.
Postconditions	The user is redirected to the correct page.

User Login



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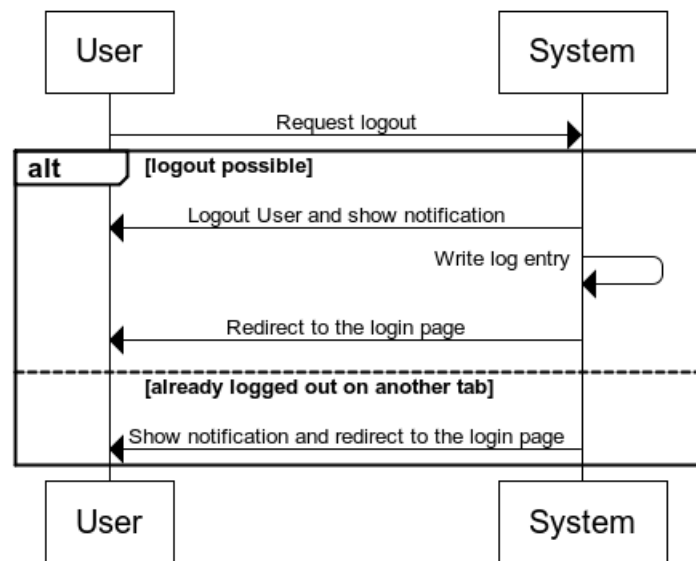
2 User Login via Smartphone

Description	When the user wishes to login via his or her smartphone. Very similar to the regular User Login use case.
Actors	User
Preconditions	<ol style="list-style-type: none">1. User's smartphone is on.2. User's smartphone views the installed apps.
Basic Flow	<ol style="list-style-type: none">1. The user taps on the icon that corresponds to the coffee machine application.2. The system presents the user with the login page.3. The user taps on the username text field.4. The user types in his or her username.5. The user taps on the password field.6. The user types in his or her password.7. The user taps the login button.8. The system logs in the user.9. The system makes an entry in the log file about the login from the smartphone.10. The system presents the user with the default post-login page.
Alternate Flows	<ol style="list-style-type: none">5 a) The user taps on the "next field" key on the keyboard.<ol style="list-style-type: none">1. The basic flow continues from step 6.7 a) The user taps the enter key on the keyboard.<ol style="list-style-type: none">1. The basic flow continues from step 8.
Exception Flows	<ol style="list-style-type: none">8 a) The user has typed in a bad username or password.<ol style="list-style-type: none">1. The system notifies the user that he or she is not logged in.8 b) The maximum number of bad tries has been reached.<ol style="list-style-type: none">1. The system notifies the user that the maximum number of bad tries has been reached.2. The system disables the user's account.3. The use case exits.
Postcondition	User is logged in.

3 User Logout

Description	The user can request logout through the interface at any time. When a logout is requested the user goes through this use case.
Actors	User
Preconditions	The application is started and the user is logged in.
Basic Flow	<ol style="list-style-type: none">1. The user requests logout2. The system logs out the user and sends a notification.3. The system writes a log entry for the activity of the user with the current time and date.4. The system sends the user to the log in page.
Alternate Flows	<ol style="list-style-type: none">2 a) The user has already been logged out in a different tab.<ol style="list-style-type: none">1. The system notifies the user.2. The system sends the user to the log in page.
Postconditions	The user is logged out and redirected to the login page.

User logout



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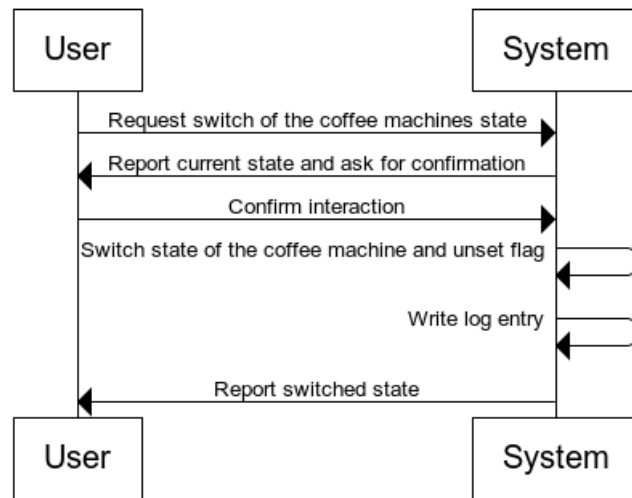
4 User Logout via Smartphone

Description	When the user wishes to logout from the session via his or her smartphone. Very similar to the regular User Logout Use Case. The mobile application session, and the website session are independent - if the user logs out from the website, the user may still be logged in from the application.
Actors	User
Preconditions	<ol style="list-style-type: none">1. The user's smartphone's display is on.2. The user is logged in to the application.
Basic Flow	<ol style="list-style-type: none">1. The user taps on the logout link inside the application.2. The system logs the user out.3. The system presents the user with the login view.
Postconditions	The user is logged out and has been sent to the login page.

5 Switching the State of the Coffee Machine

Description	The user goes through this use case whenever they request activation or deactivation of the coffee machine through the interface.
Actors	User
Preconditions	The application is started and the user is logged in. The user is currently on the page for switching the state of the coffee machine.
Basic Flow	<ol style="list-style-type: none">1. The user requests switch of the coffee machines state through the user interface.2. The system writes a log entry for the activity of the user with the current time and date.3. The system notifies the modified state of the coffee machine through the interface.4. The system notifies the modified state of the coffee machine via the LED light.
Postconditions	The flag indicating if the machine is filled located on the main page is not set anymore, and the system notifies the user of the state switch.

Switching the Coffee Machines State

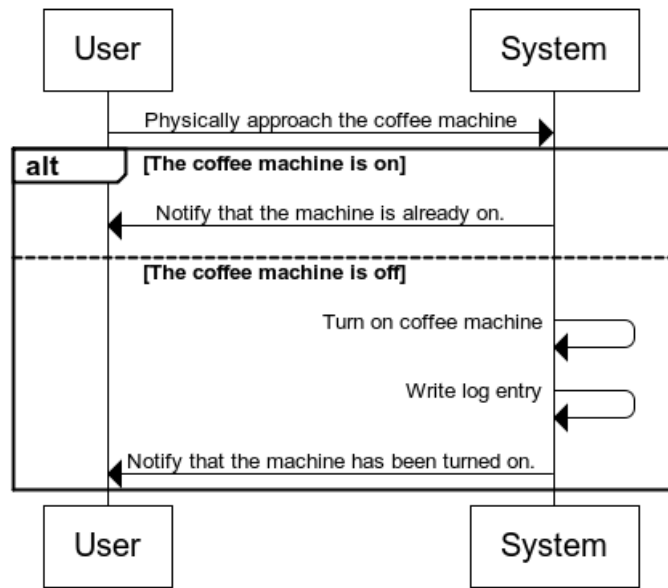


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6 Automatic Activation

Description	This use case covers the automatic activation of the coffee machine through approaching of the user.
Actors	User
Preconditions	The application is running in the background on a mobile device. The user is logged in and has previously activated the automatic start feature. The machine is also in automatic start mode.
Basic Flow	<ol style="list-style-type: none">1. The user approaches the coffee machine to a set distance.2. The system turns on the coffee machine.3. The system writes a log entry for the activity of the user with the current time and date.4. The system notifies the user that the coffee machine has been turned on.
Alternate Flows	<ol style="list-style-type: none">2 a) The coffee machine is already activated.<ol style="list-style-type: none">1. The system notifies the user that the coffee machine is already activated.
Postconditions	The coffee machine is activated.

Autostart

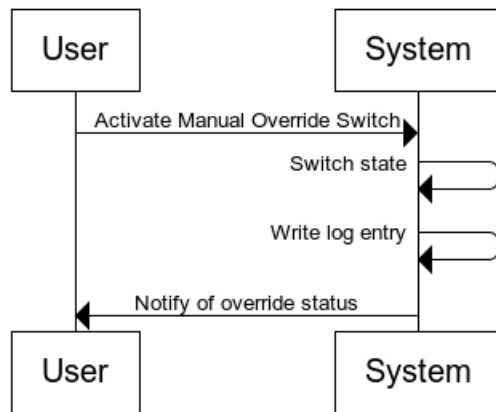


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7 Manual Override

Description	In case the user wants to go around the system and turn the coffee machine on or off this use case is used.
Actors	User
Preconditions	The user is physically close to the machine.
Basic Flow	<ol style="list-style-type: none">1. The user activates the manual override switch.2. The system switches the state of the coffee machine3. The system writes a log entry for the activity of the user with the current time and date.4. The system notifies other users that the system is in manual override mode.
Postconditions	All users are notified of override state.

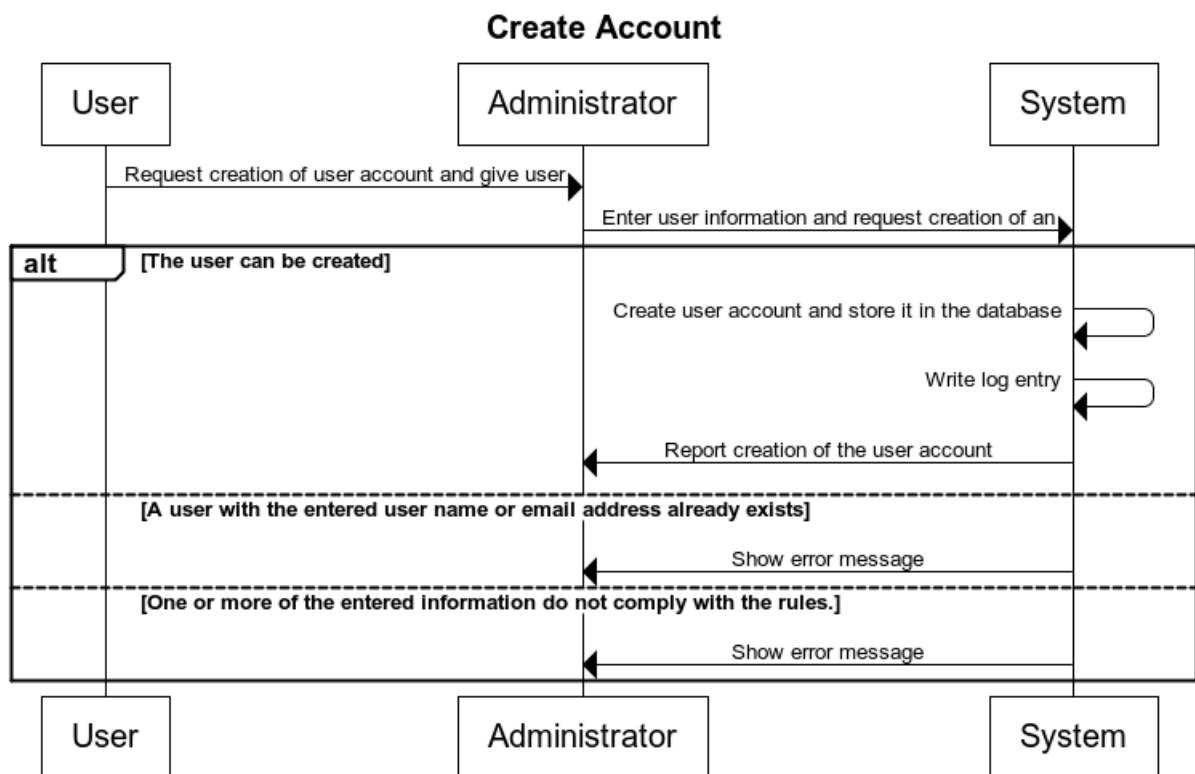
Manual Override



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8 Create Account

Description	The administrator creates accounts for all users. When a new user should be created they give their information to the administrator, who then creates the account. The information a user needs to create an account is the email, desired user name and desired password of the user. The rules for user names and passwords have not yet been defined.
Actors	User, Administrator
Preconditions	The system is already setup and an administrator exists. The administrator is logged in to the system.
Basic Flow	<ol style="list-style-type: none">1. The user requests an account and gives information to the administrator.2. The administrator accesses the user creation page.3. The administrator enters the users data and requests creation of the new account.4. The system saves the user data in the database.5. The system writes a log entry for the activity of the user with the current time and date.6. The system notifies the administrator that the account has been created.7. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) A user with the entered user name or email address already exists.<ol style="list-style-type: none">1. The system notifies the administrator.2. The administrator asks the user for different user information.3. The administrator returns to step 3.4 b) One or more of the entered information do not comply with the rules.<ol style="list-style-type: none">1. The system notifies the administrator.2. The administrator asks the user for different user information.3. The administrator returns to step 3.
Postconditions	A new user account with the users information has been created.

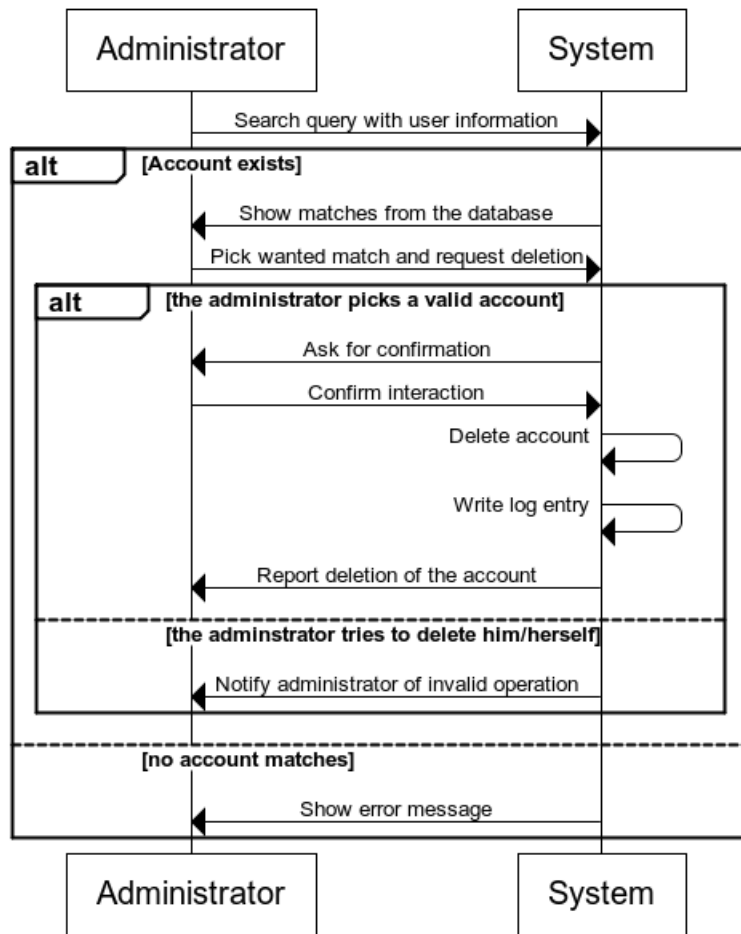


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9 Delete Account

Description	The administrator manages all user accounts including the deletion of accounts. The administrator can find a user by putting in either the user name or the email address.
Actors	Administrator
Preconditions	The system is already setup and an administrator exists. The administrator is logged in to the system.
Basic Flow	<ol style="list-style-type: none">1. The administrator searches for a user by putting in the users information.2. The system shows a list of users fitting the search criteria.3. The administrator chooses the user he wants to delete and requests deletion.4. The system asks for confirmation.5. The administrator confirms.6. The system notifies the administrator of the deletion of the users account.7. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) No user with the entered user information can be found.<ol style="list-style-type: none">1. The system notifies the administrator.2. The use case is exited.4 b) The administrator tries to delete him-/herself.<ol style="list-style-type: none">1. The system notifies the administrator that an administrator cannot delete him-/herself.2. The administrator is routed back to the administrator page.
Postconditions	The user account has been deleted.

Delete Account



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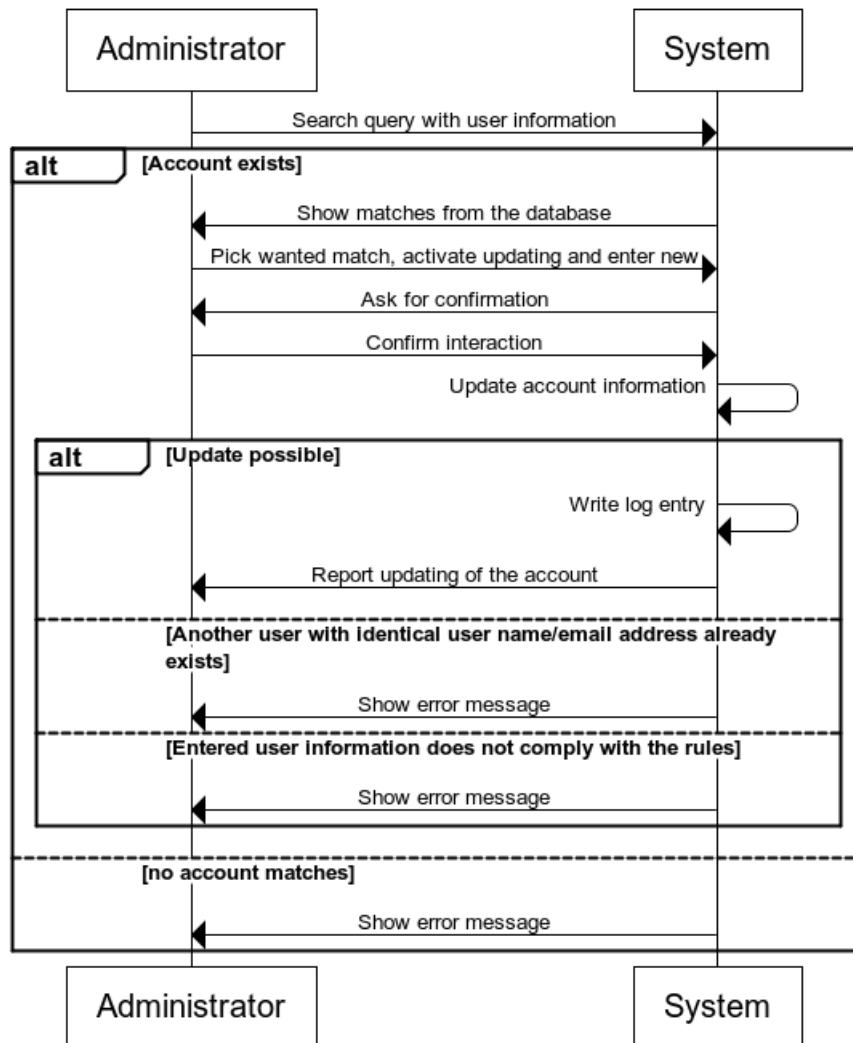
10 Deactivate Account

Description	The administrator manages all user accounts including the deactivation of accounts. The administrator can find a user by putting in either the user name or the email address. A deactivated user will still show up in the statistics but is not able to log in to the system.
Actors	Administrator
Preconditions	The system is already setup and an administrator exists. The administrator is logged in to the system.
Basic Flow	<ol style="list-style-type: none">1. The administrator searches for a user by putting in the users information.2. The system shows a list of users fitting the search criteria.3. The administrator chooses the user he wants to deactivate and requests deactivation.4. The system asks for confirmation.5. The administrator confirms.6. The system notifies the administrator of the deactivation of the users account.7. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) Alternate flow.<ol style="list-style-type: none">1. The system notifies the administrator.2. The use case is exited.4 b) Alternate flow.<ol style="list-style-type: none">1. The system notifies the administrator that an administrator cannot deactivate him-/herself.2. The administrator is routed back to the administrator page.
Postconditions	The user account has been deactivated.

11 Update Account

Description	The administrator manages all user accounts including the updating of accounts. The administrator can find a user by putting in either the user name or the email address.
Actors	Administrator
Preconditions	The system is already setup and an administrator exists. The administrator is logged in to the system.
Basic Flow	<ol style="list-style-type: none">1. The administrator searches for a user by putting in the users information.2. The system shows a list of users fitting the search criteria.3. The administrator chooses the user he wants to update and activates updating.4. The administrator enters updated user information.5. The system asks for confirmation.6. The administrator confirms.7. The system notifies the administrator of the deletion of the users account.8. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) No user with the entered user information can be found.<ol style="list-style-type: none">1. The system notifies the administrator.2. The use case is exited.7 a) A user with the entered user name or email address already exists.<ol style="list-style-type: none">1. The system notifies the administrator.2. The use case is exited.7 b) One or more of the entered information do not comply with the rules.<ol style="list-style-type: none">1. The system notifies the administrator.2. The use case is exited.
Postconditions	The user accounts information has been updated.

Update Account

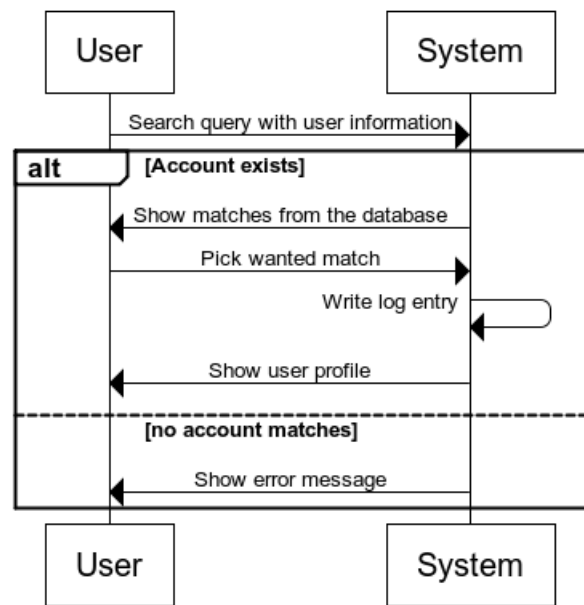


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12 Search for User

Description	The administrator has to search for users to be able to perform actions such as updating, deletion and deactivation on them. All users must be able to find a specific user to be able to view their statistics. Users should be able to be found by entering their user names or part of their user names.
Actors	Administrator, User
Preconditions	The user is logged in.
Basic Flow	<ol style="list-style-type: none">1. The user enters information in the search field2. The system shows a list of users fitting the search criteria.3. The user chooses the desired user from the list.4. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) No user with the entered user information can be found.<ol style="list-style-type: none">1. The system notifies the user.2. The use case is exited.
Postconditions	The user is redirected to the users page.

Search for User

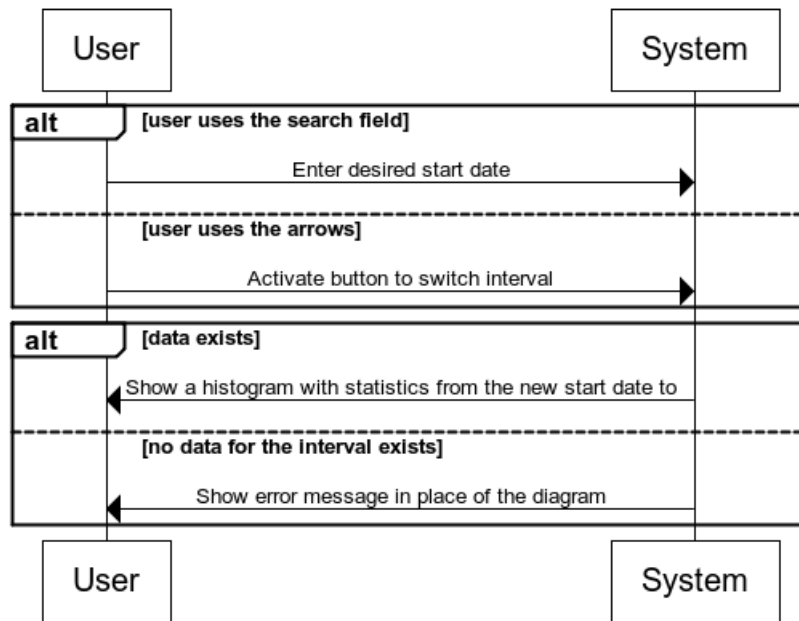


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13 Change Statistics Viewing Interval

Description	When statistics for a activity are already shown the interval to view can be changed either by selecting a date directly or by clicking the plus or minus buttons on days, weeks or years.
Actors	User
Preconditions	The user is logged in to the system and is currently on the page for viewing statistics. A activity to be viewed has already been chosen.
Basic Flow	<ol style="list-style-type: none">1. The user selects the start field provided on the statistics page and enters the desired date.2. The system updates the viewed statistics.3. The system writes a log entry for the activity of the user with the current time and date.
Alternate Flows	<ol style="list-style-type: none">1 a) The user chooses to change the time using the buttons.<ol style="list-style-type: none">1. The system updates the viewed statistics every time a button is activated to change the interval.
Exception Flows	<ol style="list-style-type: none">4 a) No data for the chosen interval exists.<ol style="list-style-type: none">1. The system displays a message instead of the histogram.2. The use case is exited.

Change Statistics Viewing Interval

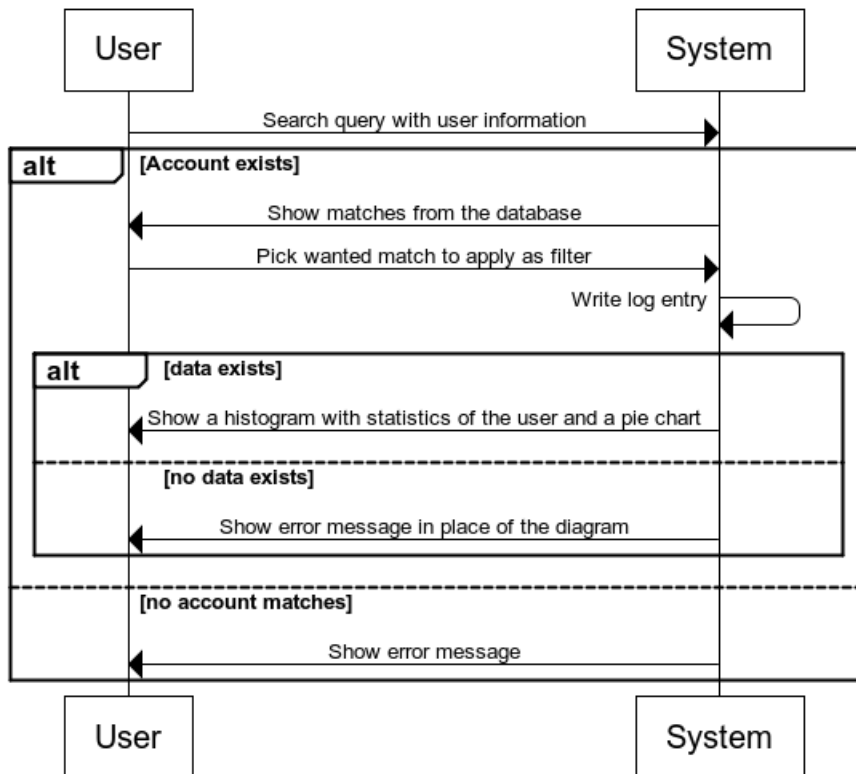


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14 Change Statistics Viewing Filter

Description	When statistics for an activity are already viewed the user can add user through the search field to filter the viewed statistics.
Actors	User
Preconditions	The user is logged in to the system and is currently on the page for viewing statistics. An activity to be viewed has already been chosen.
Basic Flow	<ol style="list-style-type: none">1. The user enters the user-name of another user in the search-field provided on the page.2. The system provides a list of users that fit with the provided search term.3. The user chooses the user they want to enter to the view as filter.4. The system shows the histogram for only the selected users' activities and a pie chart showing the percentage of each users contribution to the activity.5. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">4 a) No data for the chosen activity and user exists.<ol style="list-style-type: none">1. The system displays a message instead of the histogram.2. The use case is exited.

Change Statistics Viewing Filter

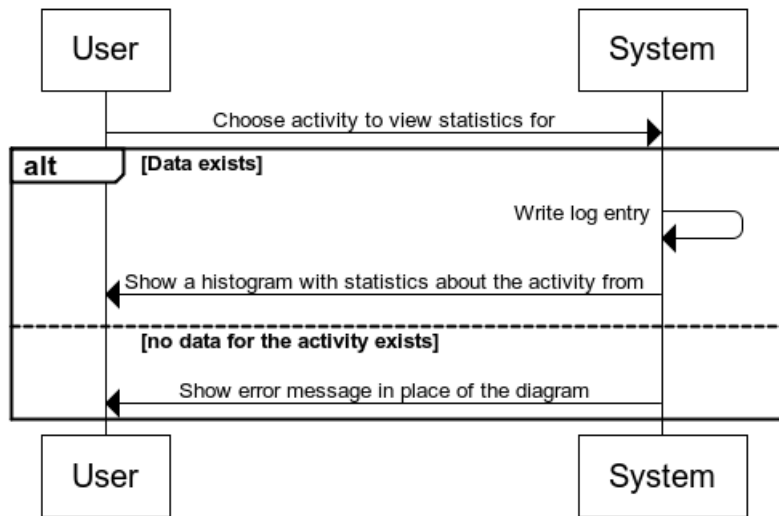


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15 View Statistics

Description	All users, including the administrator, should be able to view the statistics of the coffee machine sorted by activity. The statistics should be shown within a time span with the smallest increment of days. In addition to viewing overall statistics users can be specified to show the statistics for (as in how many times did those people do this...)
Actors	User
Preconditions	The user is logged in to the system and is currently on the page for viewing statistics.
Basic Flow	<ol style="list-style-type: none">1. The user chooses a activity from the list of activities to view.2. The system shows a histogram of the data about the selected activity from the beginning of data collection to the current day.3. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">2 a) No data for the chosen activity exists.<ol style="list-style-type: none">1. The system displays a message instead of the histogram.2. The use case is exited.

View Statistics



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16 Set Automatic Activation Feature

Description	The automatic activation feature should be activatable and deactivatable in case the customers decide that they find the feature annoying and would rather have control over it themselves. The box for to activate this feature should be located on the main page on a mobile interface.
Actors	User
Preconditions	The user is logged in to the system on a mobile device and is currently on the main page.
Basic Flow	<ol style="list-style-type: none">1. The user selects the automatic activation feature box.2. The system displays an information message about the function and asks the user for confirmation.3. The user confirms his choice.4. The system notifies that the feature has been activated.5. The system writes a log entry for the activity of the user with the current time and date.
Postconditions	The user has changed the status of the automatic activation feature.

17 Geofence Use Case

Description	Geofence is the virtual perimeter for a real-world geographic area, according to Wikipedia. In this context, the geofence is the virtual perimeter for when the automatic turn-on feature will be triggered.
Actors	User
Preconditions	<ol style="list-style-type: none">1. The user has activated the geofence function in his or her smartphone.2. The smartphone's GPS hardware is activated.3. The application is running, either in foreground or background.
Basic Flow	<ol style="list-style-type: none">1. The user closes in to the virtual perimeter.2. The smartphone detects the breach of the virtual perimeter.3. The smartphone sends a request to the system to turn on the coffee machine.4. The system sends a notification to the smartphone that the coffee machine has been turned on.5. The smartphone notifies the user that the coffee machine has been turned on.
Alternative Flows	

- 4 a) The system sends a notification that the coffee machine already is on.
 1. The use case ends without any other action.

Postconditions The coffee machine is on.

18 Set Flag

Description On the main page a flag should be settable by the user to show if the coffee machine is filled with water and coffee beans.

Actors User

Preconditions The user is logged in to the system and is currently on the main page.

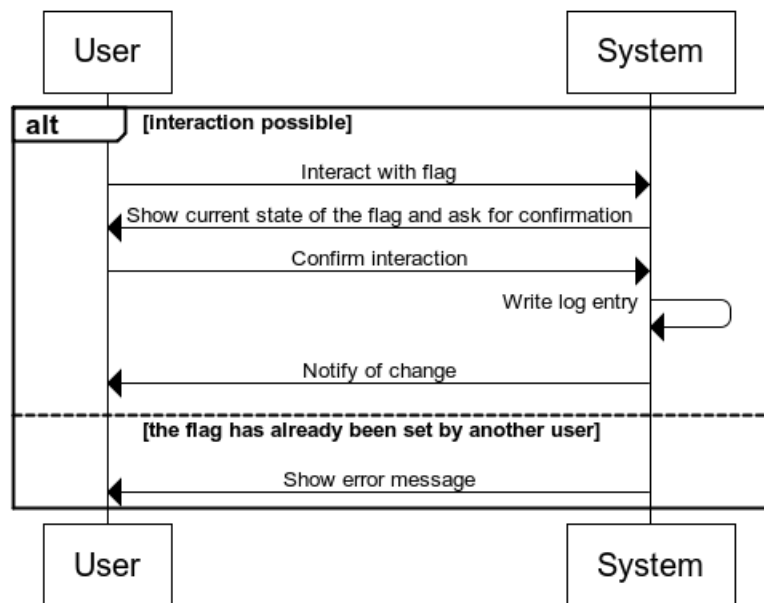
Basic Flow

1. The user selects a flag to set by pressing on its button.
2. The system asks the user if he wants to set the flag.
3. The user confirms his choice.
4. The system notifies the user of the change in the state of the flag by changing the button for setting the flag.
5. The system notifies the user of the change in the state of the flag by letting the LED blink.
6. The system writes a log entry for the activity of the user with the current time and date.

Exception Flows

- 4 a) The flag has already been set to the desired state by another user
 1. The system displays a error message.
 2. The use case is exited.

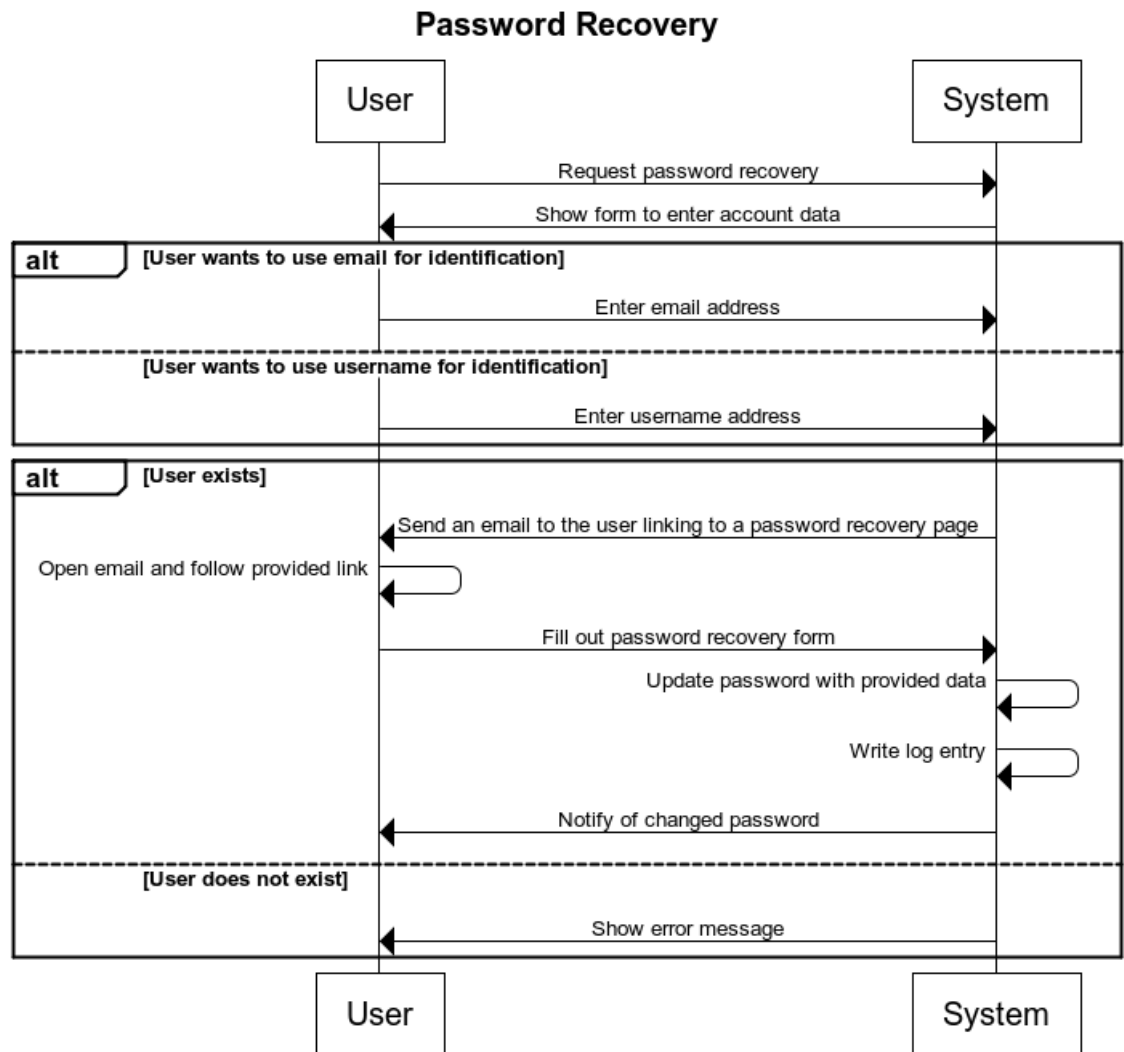
Set Flag



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19 Password Recovery

Description	The user has the option to recover his password during login in case he does not remember the password, which makes it impossible for him to login.
Actors	User
Preconditions	The application is started and the user is on the login page.
Basic Flow	<ol style="list-style-type: none">1. The user requests password recovery2. The system requests account data from the user3. The user enters his email address4. The system verifies that the email address exists5. The system sends an email to the user linking to a password recovery page6. The user follows the link and fills out the form7. The system updates the password of the user with the data from the form8. The system writes a log entry for the activity of the user with the current time and date.
Alternate Flows	<ol style="list-style-type: none">3 a) The user enters his user name.<ol style="list-style-type: none">1. The system verifies that the user name exists.2. return to step 4.
Exception Flows	<ol style="list-style-type: none">4 a) The entered data does not exist.<ol style="list-style-type: none">1. The system shows an error message.2. The use case is exited.
Postconditions	The user's password is updated.

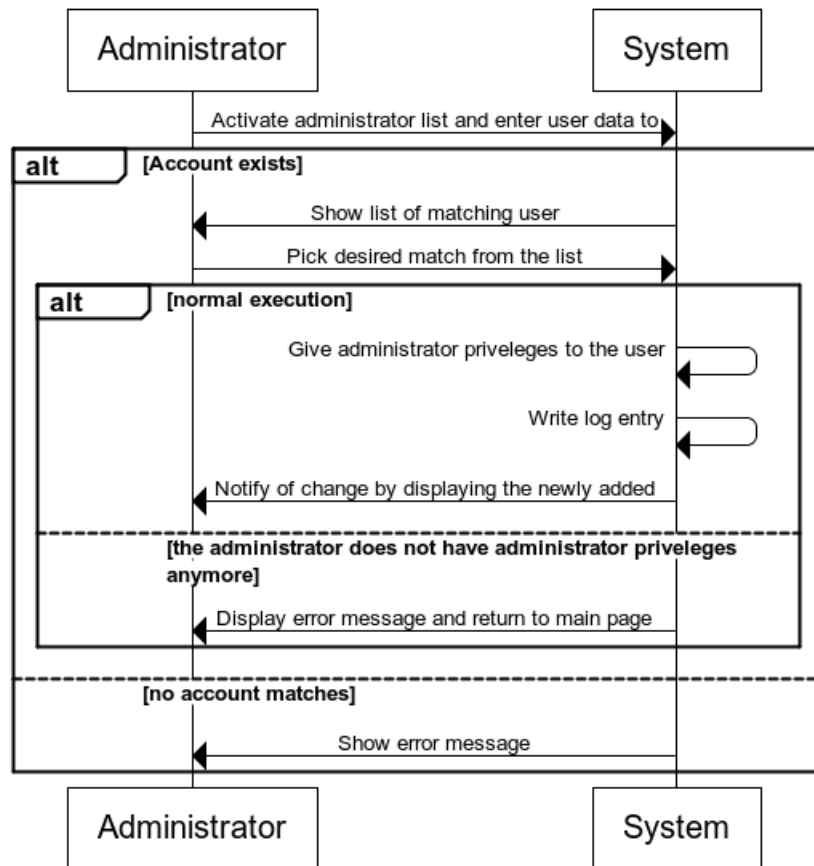


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20 Add Administrator Rights To User

Description	In case a new administrator needs to be assigned, when e.g. the current administrator leaves the company, the administrator needs to give permissions to any of the users of the system.
Actors	Administrator
Preconditions	The administrator is logged in to the system and is currently on the administrator page.
Basic Flow	<ol style="list-style-type: none">1. The administrator activates the administrator list and searches for a user.2. The system gives a list of users that match the search conditions.3. The administrator picks a user from the list.4. The system gives administrator privileges to the user.5. The system writes a log entry for the activity of the user with the current time and date.6. The system notifies the administrator of the change by displaying the user in the list of administrators.7. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">2 a) No user with the entered user information can be found.<ol style="list-style-type: none">1. Display error message.2. The use case is exited.4 a) The administrator does no longer have administrator privileges.<ol style="list-style-type: none">1. Display error message.2. Return to the main page.
Postconditions	The user is added to the list of administrators and has administrator privileges.

Add administrator rights to user

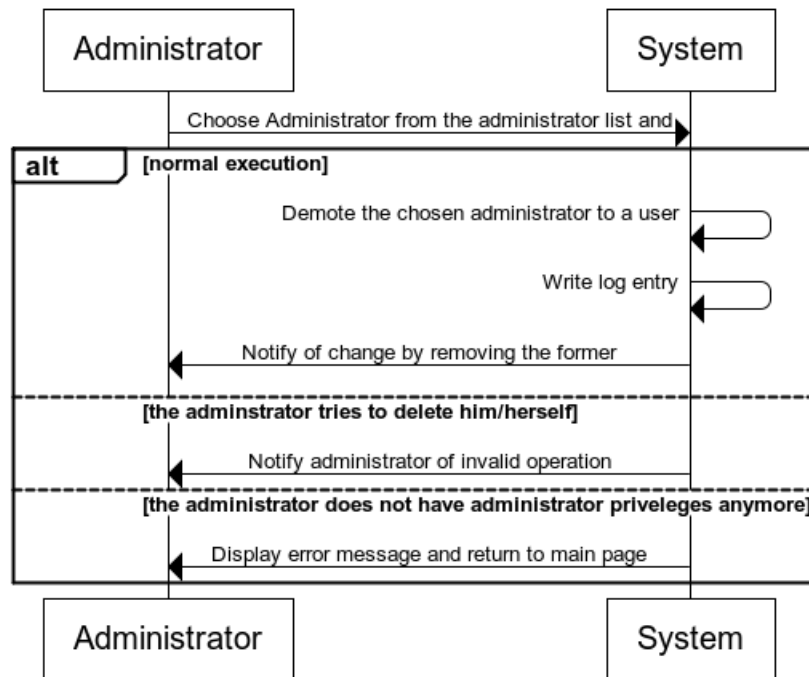


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21 Revoke Administrator Rights from User

Description	If a user that has administrator rights leaves the company, or in any other way makes it unnecessary for them to have administrator rights, then these rights should be revoked.
Actors	Two administrators
Preconditions	The administrator is logged into the system and is currently on the administrator page.
Basic Flow	<ol style="list-style-type: none">1. The administrator finds the other administrator in the administrator list.2. The administrator removes the other administrator from the list.3. The system notifies the administrator by removing the other administrator from the list.4. The system writes a log entry for the activity of the user with the current time and date.
Exception Flows	<ol style="list-style-type: none">2 a) The administrator tries to remove him-/herself.<ol style="list-style-type: none">1. The system notifies the administrator that an admin cannot remove him-/herself.2 b) The (former) administrator no longer has administrator rights.<ol style="list-style-type: none">1. The system notifies the (former) administrator that he/she is missing elevated rights.
Postconditions	The user that got the administrator rights revoked is no longer an administrator.

Revoke administrator rights to user



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22 Use Case Diagram

