# Use Case 1: Browse Catalog

**Description:** This use case describes how the User can search/browse the e-store catalog.

**Primary Actor**: User

**Stakeholders and Interests**:
- **User**: Wants user-friendly interface and fast browsing speed.
  Wants to browse the catalog and add items to the cart successfully.
- **Company**: Wants to satisfy user interests.

**Preconditions**: System displays main page, main page shows "Categories" link

**Success Guarantee (Post Conditions)**:
- System displays 'Item Page' with item chosen by the user, including a photo (if one is available) and an 'Add to Cart' link.

**01 A) Basic flow**
1. User clicks on any category link in the 'Category' list given in top-left corner.
2. System displays 'Category Page' with the products available for the category chosen.
3. User clicks on any product link in 'Products for this Category' list.
4. System displays 'Product Page' with list of all of the items for the product chosen along with the price of each item.
5. User clicks on any item link in 'Items for this Product' list.
6. System displays 'Item Page' for the item chose, including a photo if one is available and an 'Add to Cart' link.

**02 B) Extensions**

3a. User navigates to category page of a particular type of product by clicking on any product in the image map located in the center of the page.

4a. User views the next few items from the list of all products in category by clicking on 'Next' link in the bottom right corner of product list and then navigates to 'Product Page' of a particular product by clicking on that product link in 'Products for this Category' list.

# Use Case 2: Search Catalog

**Description:** This use case describes how the User can search the e-store catalog.

**Primary Actor**: User

**Stakeholders and Interests**:

- **User**: Wants user-friendly interface and fast searching speed.
  Wants to find some specific product in catalog and add items to the cart successfully.
- **Company**: Wants to satisfy user interests.

**Preconditions**: System displays "Main Page"

**Success Guarantee (Post Conditions)**:

- System displays 'Item Page' with item chosen by the user, including a photo (if one is available) and an 'Add to Cart' link.

**A) Basic flow**

1. User enters text in text box next to Search button and clicks on Search button.
2. System displays page with the matching text products.
3. User clicks on the desired link.
4. System displays "Product Page"
5. User clicks on any item link in 'Items for this Product' list.
6. System displays 'Item Page' for the item chose, including a photo if one is available and an 'Add to Cart' link.

**B) Extensions**

3a If search returns no results, System displays the message "No matches found for the entered text".

# Use Case 4: Update Account Information

**Description:** This use case describes how a User can update his account information with e-store

**Primary Actor**: User

**Stakeholders and Interests**:

- **User**: Wants user-friendly interface and fast searching speed.
  Wants to update the account with ease and within a short time.
- **Company**: Wants to satisfy user interests and validate user information.

**Preconditions**: (Post conditions of Use Case 11)

1. User is logged in
2. System displays account informmation page

**Success Guarantee (Post Conditions)**:

- 'Account Information Page' lets the user review his/her account details and then successfully modifying its contents.

**04 A) Basic flow**

1. User clicks on the "update Account" link
2. System displays Modifiable Account Information Page.
3. User modifies the account information and exits the page by clicking on "Finish".
4. System displays the confirmation message "Account Information is updated".

# Use Case 5: Cancel Account Information

**Description:** This use case describes how a User can cancel his account information with e-store

**Primary Actor**: User

**Stakeholders and Interests**:

- **User**: Wants user-friendly interface and fast searching speed.
  Wants to cancel the account with ease and within a short time.
- **Company**: Wants to satisfy user interests and validate user information.

**Preconditions**: (Post conditions of Use Case 11)

1. User is logged in
2. System displays account informmation page

**Success Guarantee (Post Conditions)**:

- 'Account Information Page' lets the user cancel his account.

**05 A) Basic flow**

1. User clicks on the "Cancel Account" link.
2. System logs out the user and displays the confirmation message "Account deleted".
3. System displays sign in page and sends an e-mail to user confirming the cancellation of the account.

# Use Case 6: Maintain Shopping Cart

**Description:** This use case describes how an actor can modify items in the shopping cart.

**Primary Actor**: User

**Stakeholders and Interests**:

**User:** Wants to browse/purchase electronic items from the Store.

**Marvel electronics Owner:** Every user who visits the site or makes a purchase has a direct bearing on the revenue and hence the profitability of the store owner.

**Pre-Condition:** System displays 'Item Page' for the item chose, including a photo if one is available and an 'Add to Cart' link.

**Post-Condition:** The user successfully modifies existing items in the cart or adds new items to the cart.

**06 A) Basic Flow**

1. The user clicks on the "Add to Cart" link. The system displays the Cart Page with the all the old items and the newly added item. The subtotal field displays the total cost of the shopping cart.

**06 B)**

1. The user modifies the item quantity for one or multiple items and clicks "Update Cart".
2. The system updates the new quantity and displays the modified line item totals and sub-total to the user.

**06 C)**

1. The user clicks the "Remove" link to remove any of the items in the cart.
2. The system deletes the item from the cart and adjusts the sub-total accordingly.

**06 D) Extensions Flows**

a. User proceeds to adding Items to cart and modifying cart without logging in.
b. If the user enters a non-positive or non-integer quantity the system displays an appropriate error message.
c. If user closes the window without proceeding for payment, the cart is stored in the system for a pre-decided number of days, before getting flushed, so that the user can return to the cart in the future.
d. 'Refresh cart' feature is available for resetting the cart.

**Special Requirements:**

1. Multiple users should be able to add items to cart simultaneously.

# Use Case 11: Login/Registration

**Description**
This use case describes how users gain access to the e-Store system through the login/registration (account creation) process.

**Primary Actors**
Users (Customers, Administrators)

**Stakeholders and Interests**
1. User:  wants to gain access to the system for any number of reasons (e.g., maintain personal account, check order status, purchase items, administer system, etc.).
2. Marvel Electronics Owner:  wants to ensure security of system.

**Pre-Conditions**
1. System displays "Sign In" page.
2. (A and B) User has username and password
3. (D) User is not registered (does not have an username)

**Post Conditions:**
1. (A, C, D - Success): User is logged in and system displays account information page.
2. (B - Failure): User failed to log in and is appropriately notified.

**A) Basic Flow**
1. User enters his/her username and password in the "Sign In" page.
2. System validates username and password (successfully), logs the user in and displays the user's account information page.

**B) Invalid Password**
1. User enters his/her username and password in the “Sign in” page.
2. System determines that the username or password is invalid and informs the user to try again.

**C) Returning User, Forgotten Username or Password**
1. User has forgotten his/her username, password, or both, and clicks the "Forgot Username/Password?" link
2. System resets the users credentials and sends an e-mail notification with the new information
3. User utilizes the new username/password information to log in following the basic flow

**D) New User**
1. User clicks on "New User" link on "Sign In" page.
2. System displays “New User” page.
3. User enters his/her account information and chooses a username and password.
4. System validates and registers the information entered.
5. System sends the user an e-mail with a confirmation link and displays “Sign in” page.

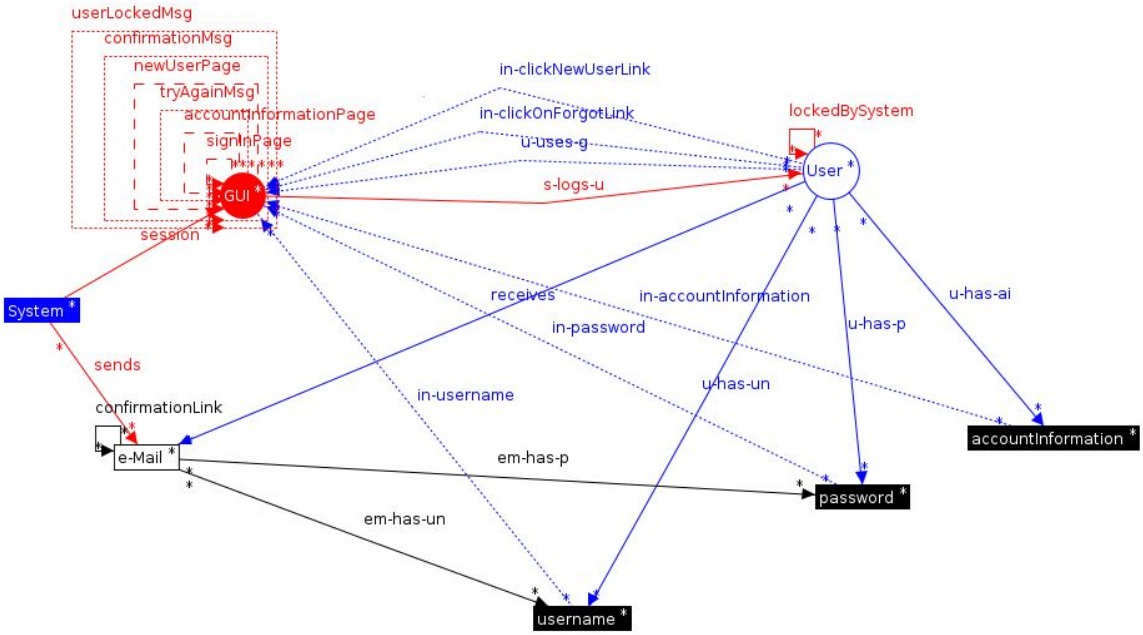
6. User confirms new account by clicking on confirmation link in the e-mail, system logs the user in and displays his/her account information page.

**Special Requirements**

- After three consecutive unsuccessful login attempts, the user's account will be locked and must be reset by a system administrator.

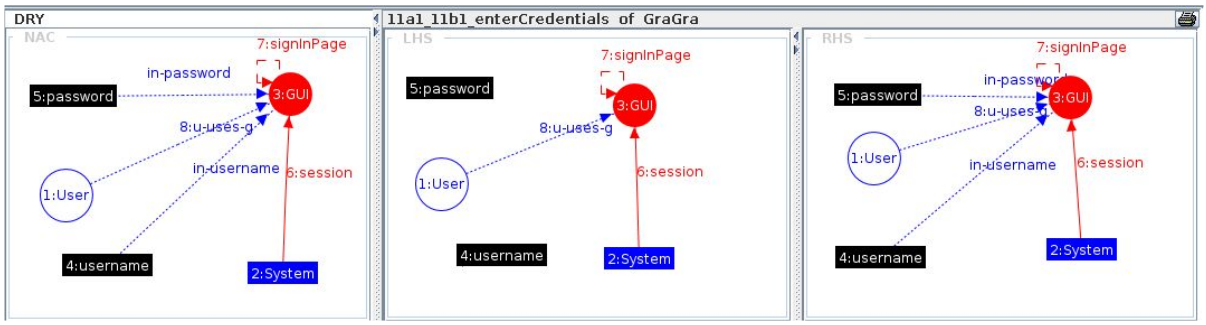
# Modeling

## TypeGraph



## Rules

A1 e B1)

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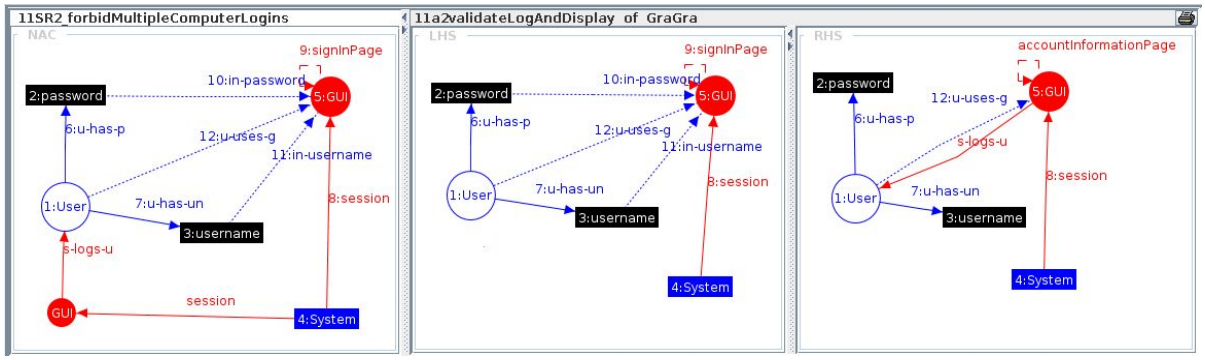


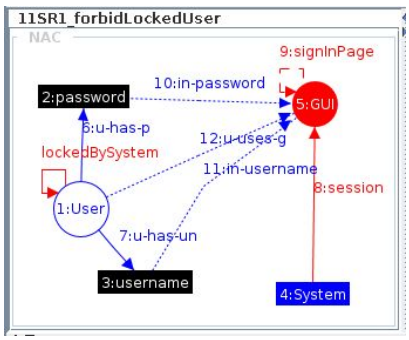


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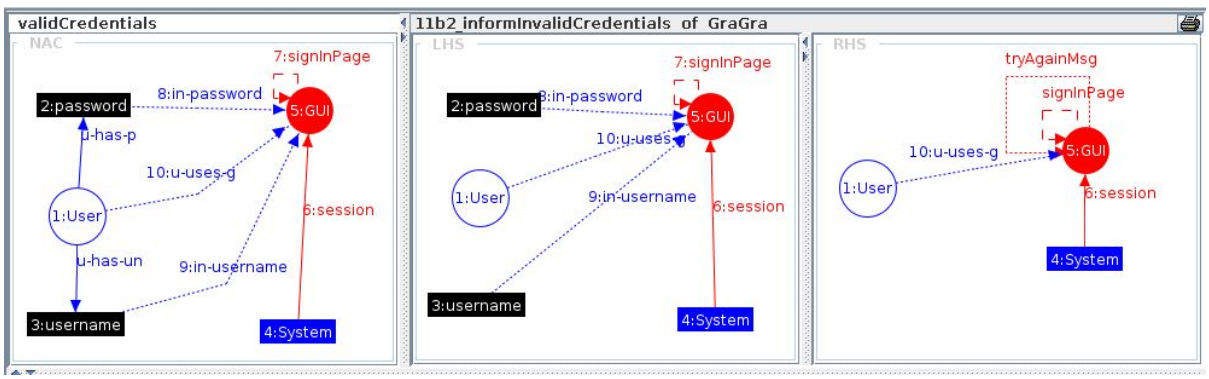

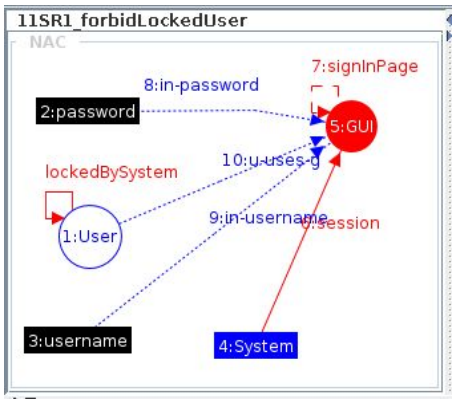
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10:u-uses-g
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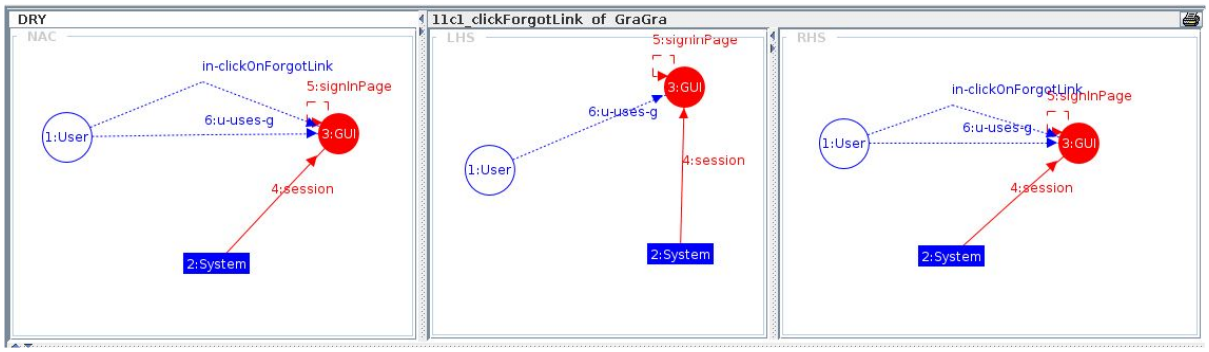
1:User
9:in-username
6:session
3:username
4:System

C1)


DRY
NAC
in-clickOnForgotLink
5:signInPage
1:User
6:u-uses-g
3:GUI
4:session
2:System
11c1_clickForgotLink_of_GraGra
LHS
5:signInPage
3:GUI
6:u-uses-g
1:User
4:session
2:System
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3:GUI
4:session
2:System

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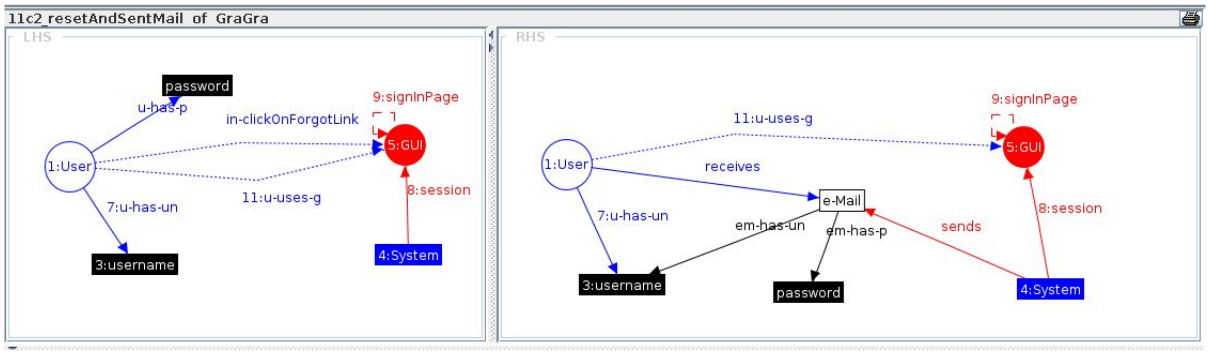
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in-clickOnForgotLink
1:User
5:GUI
8:session
7:u-has-un
11:u-uses-g
3:username
4:System
RHS
11:u-uses-g
9:signInPage
1:User
5:GUI
receives
e-Mail
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em-has-p
sends
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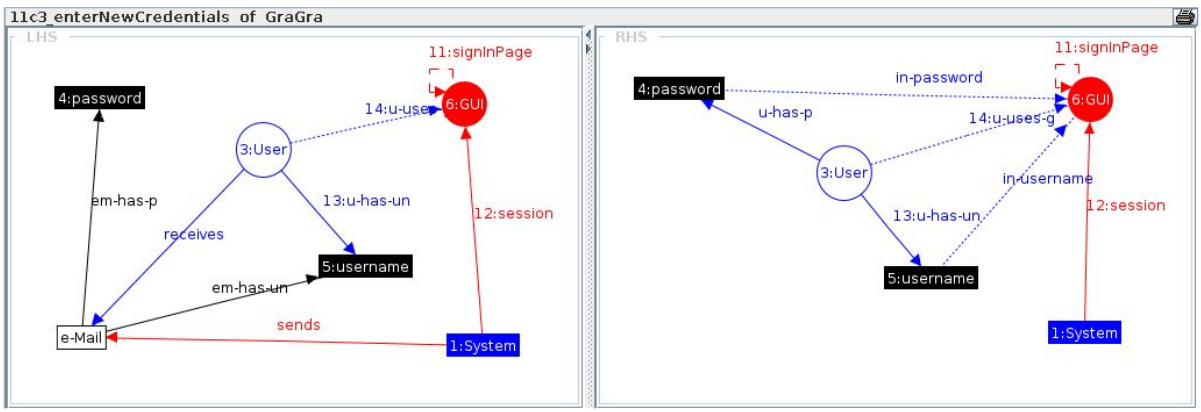
password
4:System

C3)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3:User
em-has-p
13:u-has-un
12:session
receives
5:username
em-has-un
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sends
1:System
RHS
11:signInPage
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in-password
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3:User
in-username
13:u-has-un
12:session
5:username
1:System

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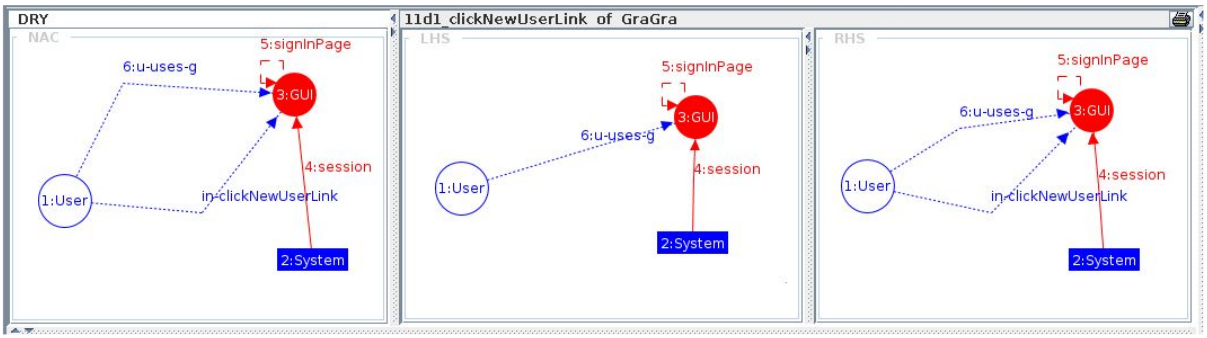
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NAC
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1:User
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2:System
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LHS
5:signInPage
3:GUI
6:u-uses-g
4:session
1:User
2:System
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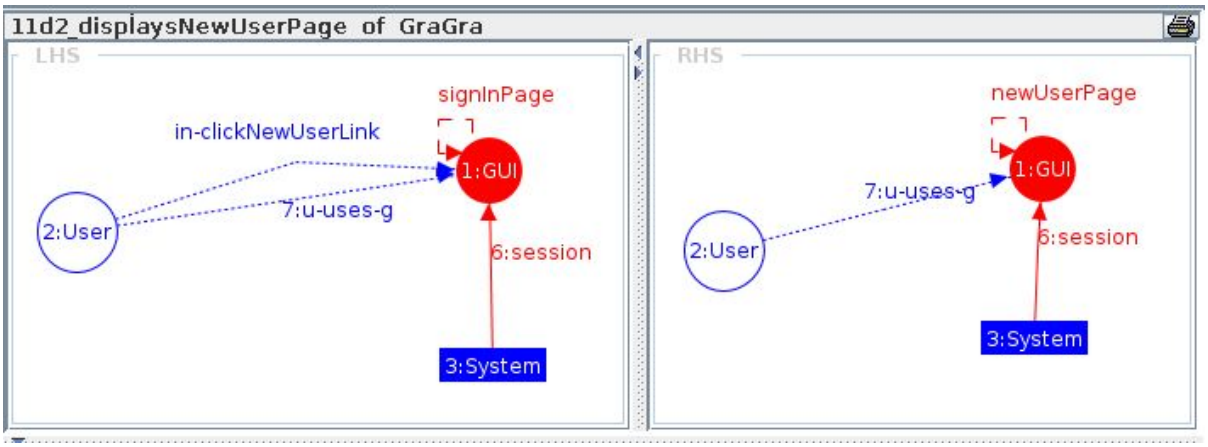
4:session
1:User
in-clickNewUserLink
2:System

D2)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LHS
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in-clickNewUserLink
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2:User
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7:u-uses-g
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6:session
3:System

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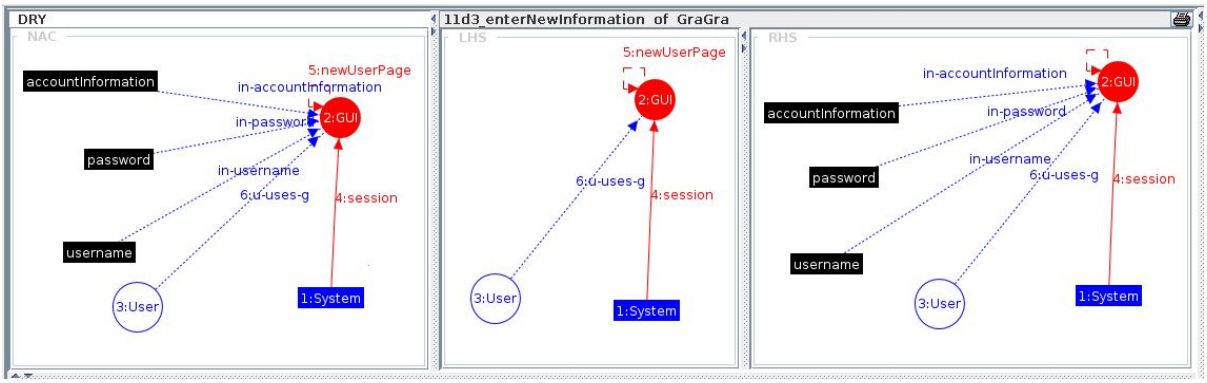
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NAC
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5:newUserPage
in-accountInformation
2:GUI
in-password
password
in-username
6:u-uses-g
4:session
username
3:User
1:System
11d3_enterNewInformation of GraGra
LHS
5:newUserPage
2:GUI
6:u-uses-g
4:session
3:User
1:System
RHS
in-accountInformation
2:GUI
accountInformation
in-password
password
in-username
6:u-uses-g
4:session
username
3:User
1:System

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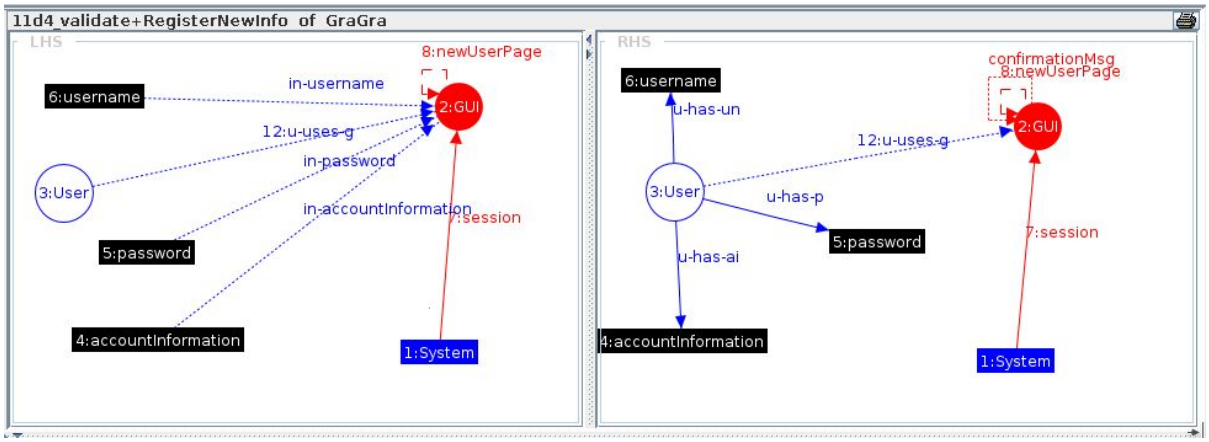
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5:password
4:accountInformation
1:System
RHS
confirmationMsg
8:newUserPage
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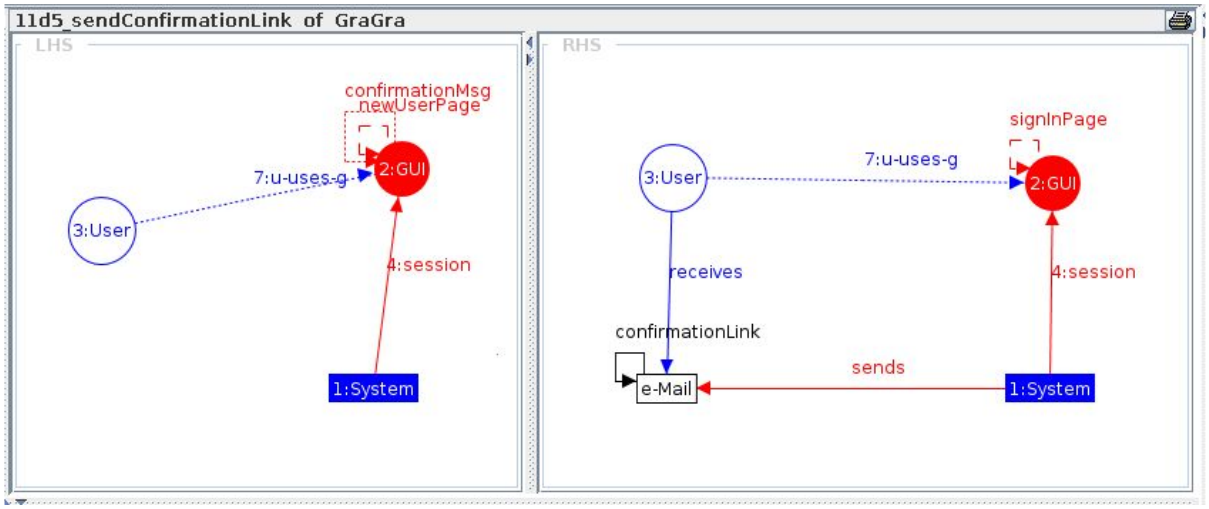
D5)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LHS
confirmationMsg
newUserPage
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7:u-uses-g
3:User
4:session
1:System
RHS
signInPage
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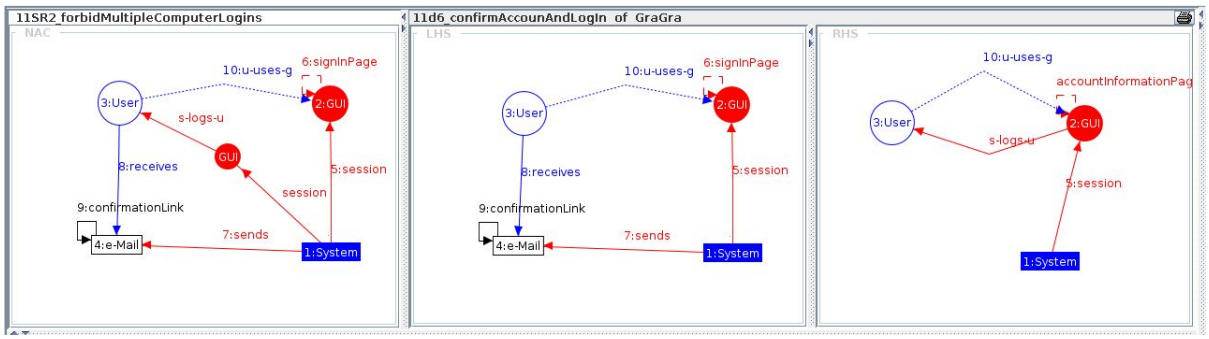
7:u-uses-g
2:GUI
receives
4:session
confirmationLink
sends
e-Mail
1:System

D6)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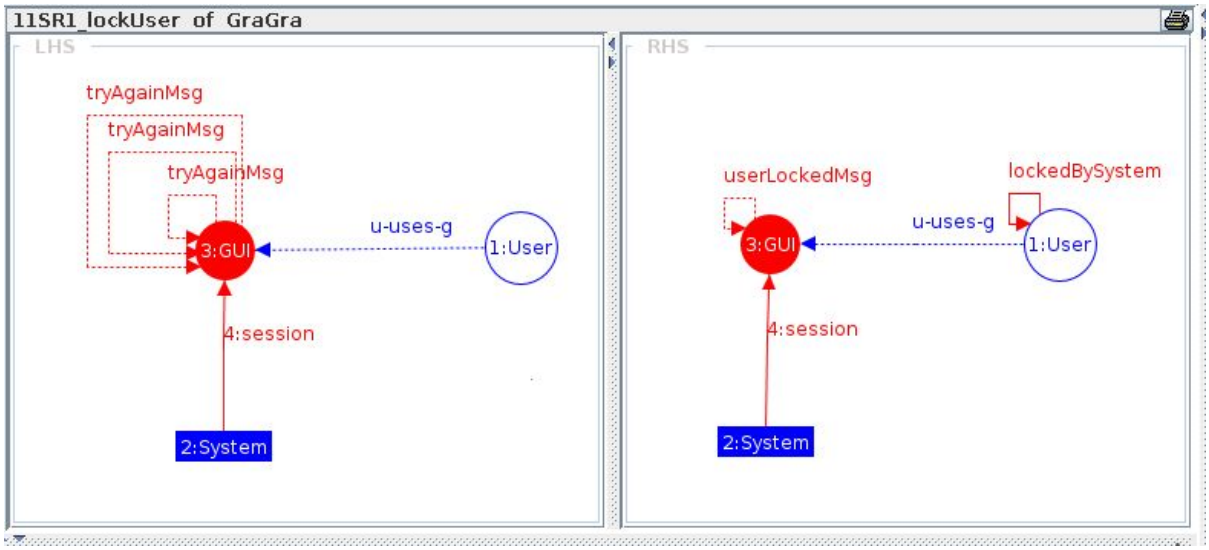
R1)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lockedBySystem
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