** MINISTRY OF EDUCATION AND TRAINING**

**FPT UNIVERSITY**

Capstone Project Document

**Computer Product Suggestion**

|  |  |
| --- | --- |
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| **Capstone Project code** | CPS |

-Ho Chi Minh City, 05/2014-

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# Definitions, Acronyms, and Abbreviations

|  |  |
| --- | --- |
| CPS | Computer Product Suggestion |

# Report No.3 Software Requirement Specification

## User Requirement Specification

### Guest Requirement

Guest is a person who doesn’t have access to the system. Guest can use some functions in the system. To use all functions, guest must login. These are some functions guest can use:

* Register.
* Ask for system suggestion.
* Search product.
* Add product to cart.

### Member Requirement

Member is guest who uses his account to login to the system. Member can use additional functions, such as:

* Update product price.
* Save product history.

### Staff Requirement

Staff is the person who manages markets and products. Staff can use these functions:

* Manage market.
* Manage product.

### Admin Requirement

Admin is the person who manages the system. Admin can use these functions:

* Configure system.
* Make statistics.
* Manage user.

### System Requirement

System is also an actor, run in the background to keep the system working. System can do functions:

* Parse data.

## System Requirement Specification

### External Interface Requirement

#### User Interface

* + The interface of website is clear, do not annoy customer.
  + The error, warning messages must be make clear, easy to understand. Error warning does not disturb customer.

#### Hardware Interface

* + The system will use the standard hardware and data communications resources of a standard computer.

#### Software Interface

* + Firefox Browser, Chromes with Resolution (1280\*800) or bigger and support JavaScript and HTML5

#### Communication Protocol

* Website using HTTP protocol for communication between the web browser and the web server.

### System Overview Use Case

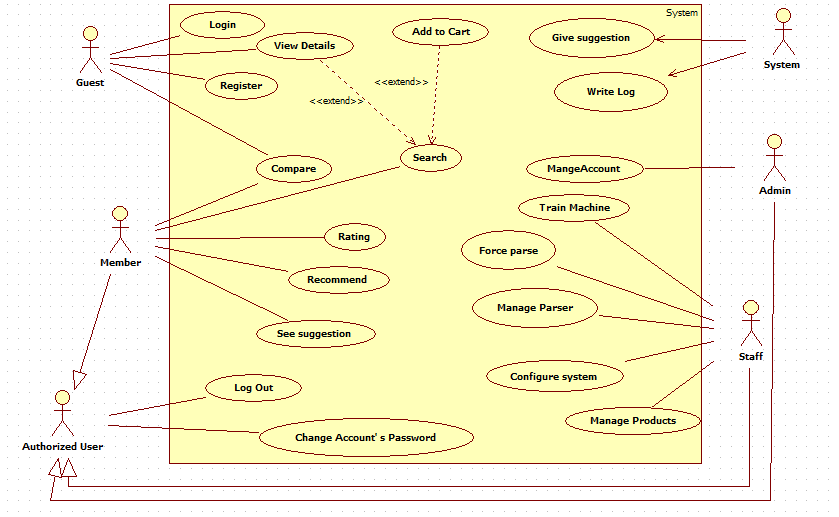


Figure 1: System Overview Use Case

### List of Use Case

#### <Admin> Overview Use Cases

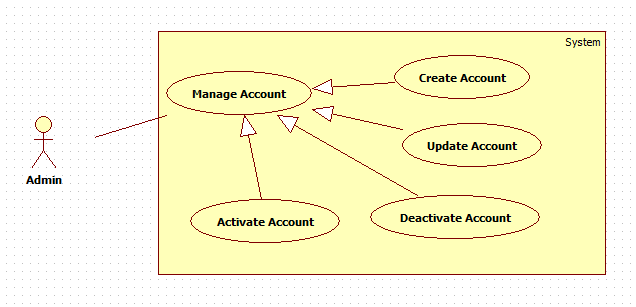


Figure 2: <Admin> Overview use case

##### <Admin> Create Account



Figure 3: <Admin> Create Account

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS001** | | | |
| **Use Case No.** | CPS001 | **Use Case Version** | 1.0 |
| **Use Case Name** | Create account | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to create new account in the system.   **Goal:**   * New account will be added to the system.   **Triggers:**   * Admin wants to create new account. * From the sidebar:   + Choose “Quản lý tài khoản” menu.   + Choose “Tạo tại khoản mới” button.   **Preconditions:**   * User must login the system with admin role.   **Post Conditions:**   * **Success:** New account will be added to the database. * **Fail:** Show error message on the current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * “Tạo tài khoản mới” button. * A table with 5 columns:   + Tên Tài Khoản.   + Email.   + Vai trò.   + Kích Hoạt.   + Sửa. * “Tên Tài Khoản”: label. * “Địa chỉ Email”: label. * “Vai trò”: label. * “Hoạt Động”: button or “Ngưng Hoạt Động”: button * “Sửa”: button. | | 2 | Admin clicks “Tạo tài khoản mới” button. | Navigate to “Tạo tài khoản mới” popup which contains:   * Tên tài khoản: textbox, min length: 5, max length: 100, required. * Mật khẩu: textbox, min length: 5, max length: 100, required. * Xác nhận mật khẩu: textbox, min length: 5, max length: 100, required. * Địa chỉ Email:regular expression: /^[\_a-z0-9-]+(\.[\_a-z0-9-]+)\*@@[a-z0-9-]+(\.[a-z0-9-]+)\*(\.[a-z]{2,4})$/ required. * Vai trò: drop down list, “admin" default. * “Tạo tài khoản”: button. * “Xóa Trắng”: button. | | 3 | Admin fills data to the form.  Admin clicks “Tạo tài khoản” button.  [Alternative 1] | Insert new account to the database and close popup  [Exception 1, 2, 3,4,5] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Admin clicks “Xóa Trắng” button”. | Clear all input data. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Tên Tài Khoản”is not in range [5-100]. | “Tên Tài Khoản” textbox border color is red. | | 2 | “Mật Khẩu” is not in range  [5-100]. | “Mật Khẩu” textbox border color is red. | | 3 | “Tên Tài Khoản” has already existed. | Show message: “Tài khoản đã tồn tại!” and “Tên Tài Khoản” textbox border color is red. | | 4 | “Xác nhận mật khẩu” not similer “Mật Khẩu” | “Mật Khẩu” textbox border color is red.  “Xác Nhận Mật Khẩu” textbox border color is red. | | 5 | Invalid email format. | “Email” textbox border color is red. |   **Relationships:** N/A  **Business Rules:**   * Each created account must be in active state when insert to database. | | | |

##### Table 1: <Admin> Create Account

##### <Admin> Update Account



Figure 4: <Admin> Update Account

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS002** | | | |
| **Use Case No.** | CPS002 | **Use Case Version** | 1.0 |
| **Use Case Name** | Update account | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This use case allows admin to update information for user accounts.   **Goal:**   * New information will be updated to the database.   **Triggers:**   * Admin wants to change some information.   **Preconditions:**   * User must log in system with admin role.   **Post Conditions:**   * **Success:** New information will be updated to the database. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * “Tạo tài khoản mới” button. * A table with 5 columns:   + Tên Tài Khoản.   + Email.   + Vai trò.   + Kích Hoạt.   + Sửa. * “Tên Tài Khoản”: label. * “Địa chỉ Email”: label. * “Vai trò”: label. * “Hoạt động”: button or “Ngưng hoạt động”: button. * “Sửa”: button | | 2 | Click “Sửa” button. | Navigate to “Cập nhập tài khoản” popup, which contains:   * Tên Tài Khoản: textbox, disabled. * Mật khẩu: textbox, min length: 5, max length: 100. * Xác nhận mật khẩu: textbox, min length: 5, max length: 100. * Địa Chỉ Email: regular expression: /^[\_a-z0-9-]+(\.[\_a-z0-9-]+)\*@@[a-z0-9-]+(\.[a-z0-9-]+)\*(\.[a-z]{2,4})$/ required. * Vai trò: drop down list, “user" default. * “Lưu”: button. | | 3 | Admin updates “Mật Khẩu”,”Email”,”Vai trò”.  Click “Lưu” button. | New information will be updated to the database and close the popup.  [Exception1,2,3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Mật khẩu” is not in range  [5,100]. | “Mật Khẩu” textbox border color is red. | | 2 | Invalid email formt. | Show error message: “Địa Chỉ Email phải đúng định dạng!” | | 3 | “Xác Nhận Mật khẩu” is not similar “Mật Khẩu” | “Mật Khẩu” textbox border color is red.  “Xác Nhận Mật Khẩu” textbox border color is red. |   **Relationships:** N/A  **Business Rules:**   * Can’t edit “Tên Tài khoản”. | | | |

Table 2: <Admin> Update Account

##### <Admin> Activate Account



Figure 5: <Admin> Activate Account

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS003** | | | |
| **Use Case No.** | CPS003 | **Use Case Version** | 1.0 |
| **Use Case Name** | Activate Account | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This user case allows admin to activate a user account.   **Goal:**   * Deactivated accounts will be activated.   **Triggers:**   * Admin wants to activate an account in order to login into the system.   **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** The selected account will be activated. * **Fail:** Database connection is not available. Show error message   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu itm “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * “Tạo tài khoản mới” button. * A table with 5 columns:   + Tên Tài Khoản.   + Email.   + Vai trò.   + Kích Hoạt.   + Sửa. * “Tên Tài Khoản”: label. * “Địa chỉ Email”: label. * “Vai trò”: label. * “Ngừng Hoạt động”: button.   “Sửa”: button | | 2 | Click “Ngừng Hoạt động” button. | The account will be activating and button name change to “Hoạt động”  [Exception1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot activate the accoun due to database connection. | Show error message: “Không thể kích hoạt! Vui lòng thử lại sau.” |   **Relationships:** N/A  **Business Rules:**   * Admins can’t activate/deactivate account of themselves or other admins. | | | |

Table 3: <Admin> Activate Account

##### <Admin> Deactivate Account



Figure 6: <Admin> Deactivate User

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS004** | | | |
| **Use Case No.** | CPS004 | **Use Case Version** | 1.0 |
| **Use Case Name** | Deactivate Account | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Admin   **Summary:**   * This user case allows admin to deactivate an account.   **Goal:**   * An active account will be deactivated.   **Triggers:**   * Admin don’t want the user to login in system. * Admin will deactivate an account.   **Preconditions:**   * User must log in the system with admin role.   **Post Conditions:**   * **Success:** The selected account will be deactivated. * **Fail:** Database connection is not available. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Quản lý tài khoản”. | Navigate to “Quản lý tài khoản” page which contains:   * “Tạo tài khoản mới” button. * A table with 5 columns:   + Tên Tài Khoản.   + Email.   + Vai trò.   + Kích Hoạt.   + Sửa. * “Tên Tài Khoản”: label. * “Địa chỉ Email”: label. * “Vai trò”: label. * “Hoạt động”: button.   “Sửa”: button | | 2 | Click “Hoạt động” button. | The account will be deactivating and button name change to “Ngừng Hoạt động”  [Exception1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot activate the account due to database connection. | Show error message: “Không thể kích hoạt! Vui lòng thử lại sau.” |   **Relationships:** Manage Account  **Business Rules:**   * Admins can’t activate/deactivate account of themselves or other admins. | | | |

Table 4: <Admin> Deactivate Account

#### <Staff >Overview Use Case



Figure 12: <Staff> Overview Use Case

##### <Staff> Create parser

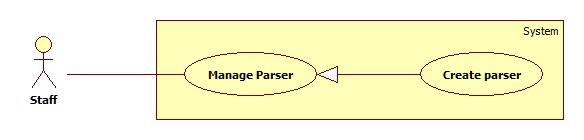


Figure 8: <Staff> Create Parser

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS005** | | | |
| **Use Case No.** | CPS005 | **Use Case Version** | 1.0 |
| **Use Case Name** | Create Parser | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 02/06/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to create new parser.   **Goal:**   * New parser will be created.   **Triggers:**   * Staffs want to create a new parser to get data from a website. * Staff clicks “Tạo parser” sub menu.   **Preconditions:**   * User has logged in with staff role.   **Post Conditions:**   * **Success**: New parser is added to the system. Show success message. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Quản lí parser” in menubar. | Show sub menu which includes:   * Tạo parser: submenu. * Danh sách parser: submenu. | | 2 | Staff clicks “Tạo parser” sub menu. | Show “Tạo Parser” page which includes:   * Link cần lấy: text box, min length: 1, max length: 300, required. * Xem: button | | 3 | Staff enters a link and click “Xem” button. | Show “Tạo Parser” page which includes:   * Link cần lấy: display entered value. * Xem: button. * Wizard to create parser. * A frame to show staff’s selected page.   [Alternatvie 1]  [Exception 1] | | 4 | At parse data page, staff input an URL of product into textbox in “Đường dẫn sản phẩm” panel, then click “Xem trước” button. | * Show “Các bước parse dữ liệu” panel includes a wizard to create a parser with 8 steps. * Show “Xem trước” panel include a frame preview the page of the URL which staff inputted. | | 5 | At step 1: “Loại parser” of the wizard, staff select “Dạng lưới” or “Dạng bảng” radio button, then click “Tiếp theo” button. | * Show step 2 of the wizard: “Khung thông tin” includes “Xpath tới khung thông tin” textbox, required. * Show “Xem trước” panel include a frame preview the page of the URL which staff inputted. | | 6 | At step 2: “Khung thông tin”, staff clicks the mouse at the area which includes all of the information of product in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới khung thông tin” filled with the xpath string, required. * Show step 3 of the wizard: “Tên sản phẩm” includes “Xpath tới tên sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 2] | | 7 | At step 3: “Tên sản phẩm”, staff clicks the mouse at the area which include product’s name in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới tên sản phẩm” filled with the xpath string, required. * Show step 4 of the wizard: “CPU” includes “Xpath tới CPU” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 3] | | 8 | At step 4: “CPU”, staff clicks the mouse at the area which include CPU information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới CPU” filled with the xpath string, required. * Show step 5 of the wizard: “RAM” includes “Xpath tới RAM” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 4] | | 9 | At step 5: “RAM”, staff click the mouse at the area which include RAM information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới RAM” filled with the xpath string, required. * Show step 6 of the wizard: “Card màn hình” includes “Xpath tới Card màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 5] | | 10 | At step 6:”Card màn hình”, staff click the mouse at the area which include VGA information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới card màn hình” filled with the xpath string, required. * Show step 7 of the wizard: “Độ phân giải màn hình” includes “Xpath tới độ phân giải màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 6] | | 11 | At step 7: ”Độ phân giải màn hình”, staff click the mouse at the area which include screen resolution information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới độ phân giải màn hình” filled with the xpath string, required. * Show step 8 of the wizard: “Giá sản phẩm” includes “Xpath tới giá sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 7] | | 12 | At step 8:”Giá sản phẩm”, staff click the mouse at the area which include product’s price information in “Xem trước” panel, then click “Tiếp theo” button. [Alternative 2] | * Textbox “Xpath tới giá sản phẩm” filled with the xpath string, required. * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. | | 13 | Staff click “Hoàn thành” button. | * Send request to the parsed link. * Fetch data from the response based on the inputted XPaths. * Validate data [Exception 8]. * If data is valid, insert to database [Alternative 3]. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff inputted value then did not click on “Tạo” button. | * Do nothing. | | 2 | At step 8: ”Giá sản phẩm”, staff click “Tiếp theo” button. [Alternative 3] | * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. | | 3 | Staffs follow the wizard to complete the process, then click “Hoàn thành” button. | * If data is valid, insert to database. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Link cần lấy” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Link cần lấy”. | | 2 | “Xpath tới khung thông tin” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới khung thông tin”. | | 3 | “Xpath tới tên sản phẩm” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới tên sản phẩm”. | | 4 | “Xpath tới CPU” is a blank | * Show message error:”Vui long nhập thông tin vào ô Xpath tới CPU”. | | 5 | “Xpath tới RAM” is a blank | * Show message error:”Vui long nhập thông tin vào ô Xpath tới RAM”. | | 6 | “Xpath tới card màn hình” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới card màn hình”. | | 7 | “Xpath tới độ phân giải màn hình” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới độ phân giải màn hình”. | | 8 | Data is not valid. | * Don’t insert to database. |   **Relationships:** N/A  **Business Rules:**   * The data display structure of that page should be for a specified product. * If the value of RAM, product’s price is negative or not a number, consider invalid.   CPS Success Log File  ======================  -Xpath was created successfully  - Parsing time:[start\_time]  - Staff: [username]  ======================  [Parsing link]  - Parsing status:  + Ten san pham: [prodname]  + CPU: [cpu]  + RAM: [ram]  + VGA: [vga]  + Do phan giai: [display]  + Gia san pham: [price]  - Time elapsed: [time\_elapsed]  ======================   * Fail log file structure:   CPS Fail Log File  ======================  - Xpath was created successfully but parsing fail  - Parsing time:[start\_time]  - Staff: [username]  ======================  [Parsing link]  - Parsing status:  + Ten san pham: [prodname]\_[status]  + CPU: [cpu]\_[status]  + RAM: [ram]\_[status]  + VGA: [vga]\_[status]  + Do phan giai: [display]\_[status]  + Gia san pham: [price]\_[status]  - Time elapsed: [time\_elapsed]  ====================== | | | |

Table 5: <Staff> Create Parser

##### <Staff> Update Parser

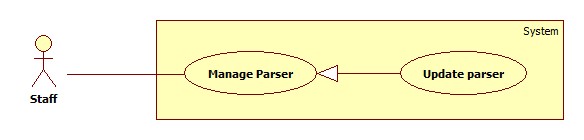


Figure 9: <Staff> Update Parser

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS006** | | | |
| **Use Case No.** | CPS006 | **Use Case Version** | 1.0 |
| **Use Case Name** | Update Parser | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 02/06/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to update a parser   **Goal:**   * Selected parser will be updated.   **Triggers:**   * Staff wants to update a parser in the system. * Staff clicks “Chỉnh sửa” link.   **Preconditions:**   * User has logged in with staff role. * There is at least 1 parser which is created before.   **Post Conditions:**   * **Success**: Selected parser will be updated. Show success message. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Quản lí parser” in menubar. | Show sub menu which includes:   * Tạo parser: submenu. * Danh sách parser: submenu. | | 2 | Staff clicks “Danh sách parser” sub menu. | Show “Danh sách parser” page which includes:   * A table with 4 columns:   + STT  + Link cần lấy  + Trạng thái  + Hành động | | 3 | Staff clicks “Chỉnh sửa” link. | Show “Sửa Parser” page which includes:   * Link cần lấy: display entered value. * Xem: button. * Wizard to create parser. * A frame to show staff’s selected page.   [Exception 1] | | 4 | At parse data page, staff input an URL of product into textbox in “Đường dẫn sản phẩm” panel, then click “Xem trước” button. | * Show “Các bước parse dữ liệu” panel includes a wizard to create a parser with 8 steps. * Show “Xem trước” panel include a frame preview the page of the URL which staff inputted. | | 5 | At step 1: “Loại parser” of the wizard, staff select “Dạng lưới” or “Dạng bảng” radio button, then click “Tiếp theo” button. | * Show step 2 of the wizard: “Khung thông tin” includes “Xpath tới khung thông tin” textbox, required. * Show “Xem trước” panel include a frame preview the page of the URL which staff inputted. | | 6 | At step 2: “Khung thông tin”, staff clicks the mouse at the area which includes all of the information of product in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới khung thông tin” filled with the xpath string, required. * Show step 3 of the wizard: “Tên sản phẩm” includes “Xpath tới tên sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 2] | | 7 | At step 3: “Tên sản phẩm”, staff clicks the mouse at the area which include product’s name in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới tên sản phẩm” filled with the xpath string, required. * Show step 4 of the wizard: “CPU” includes “Xpath tới CPU” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 3] | | 8 | At step 4: “CPU”, staff clicks the mouse at the area which include CPU information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới CPU” filled with the xpath string, required. * Show step 5 of the wizard: “RAM” includes “Xpath tới RAM” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 4] | | 9 | At step 5: “RAM”, staff click the mouse at the area which include RAM information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới RAM” filled with the xpath string, required. * Show step 6 of the wizard: “Card màn hình” includes “Xpath tới Card màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 5] | | 10 | At step 6:”Card màn hình”, staff click the mo  use at the area which include VGA information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới card màn hình” filled with the xpath string, required. * Show step 7 of the wizard: “Độ phân giải màn hình” includes “Xpath tới độ phân giải màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 6] | | 11 | At step 7: ”Độ phân giải màn hình”, staff click the mouse at the area which include screen resolution information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới độ phân giải màn hình” filled with the xpath string, required. * Show step 8 of the wizard: “Giá sản phẩm” includes “Xpath tới giá sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. * [Exception 7] | | 12 | At step 8:”Giá sản phẩm”, staff click the mouse at the area which include product’s price information in “Xem trước” panel, then click “Tiếp theo” button. [Alternative 2] | * Textbox “Xpath tới giá sản phẩm” filled with the xpath string, required. * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. | | 13 | Staff click “Hoàn thành” button. | * Send request to the parsed link. * Fetch data from the response based on the inputted XPaths. * Validate data [Exception 8]. * If data is valid, insert to database [Alternative 3]. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff inputted value then did not click on “Tạo” button. | * Do nothing. | | 2 | At step 8: ”Giá sản phẩm”, staff click “Tiếp theo” button. [Alternative 3] | * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the URL which staff inputted. | | 3 | Staffs follow the wizard to complete the process, then click “Hoàn thành” button. | * If data is valid, insert to database. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Link cần lấy” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Link cần lấy”. | | 2 | “Xpath tới khung thông tin” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới khung thông tin”. | | 3 | “Xpath tới tên sản phẩm” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới tên sản phẩm”. | | 4 | “Xpath tới CPU” is a blank | * Show message error:”Vui long nhập thông tin vào ô Xpath tới CPU”. | | 5 | “Xpath tới RAM” is a blank | * Show message error:”Vui long nhập thông tin vào ô Xpath tới RAM”. | | 6 | “Xpath tới card màn hình” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới card màn hình”. | | 7 | “Xpath tới độ phân giải màn hình” is a blank. | * Show message error:”Vui long nhập thông tin vào ô Xpath tới độ phân giải màn hình”. | | 8 | Data is not valid. | * Don’t insert to database. |   **Relationships:** N/A  **Business Rules:**   * The data display structure of that page should be for a specified product. * If the value of RAM, product’s price is negative or not a number, consider invalid. * There is at least 1 created parser in database. * Selected parser will be updated new information and insert into database. | | | |

Table 6: <Staff> Update Parser

##### <Staff> Deactivate Parser

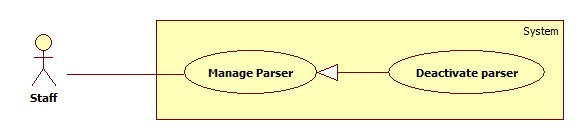


Figure 10: <Staff> Deactivate Parser

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS007** | | | |
| **Use Case No.** | CPS007 | **Use Case Version** | 1.0 |
| **Use Case Name** | Deactivate Parser | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 30/05/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to deactivate a parser   **Goal:**   * Selected parser will be deactivated.   **Triggers:**   * Staff wants to deactivate a parser in the system. * Staff clicks “Quản lý parser” menu, clicks “Danh sách parser” then clicks “Hoạt động” button.   **Preconditions:**   * User has logged in with staff role.   **Post Conditions:**   * **Success**: Selected parser is deactivated. Show success message. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Danh sách parser” sub menu. | Show “Danh sách parser” page which includes:   * A table with 4 columns:   + STT   + Link cần lấy   + Trạng thái   + Hành động | | 2 | Staff clicks “Hoạt động” button.  [Alternative 1]  [Exception 1] | That parser is deactivated. The button text is changed into “Không hoạt động”. Show success message. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks on “Chỉnh sửa”button | * System will redirect to “Chinh sửa” page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Error while deactivating parser. | Show error message. |   **Relationships:** N/A  **Business Rules:** Only parsers which have “Hoạt động” status will be deactivated. | | | |

Table 7: <Staff> Deactivate Parser

##### <Staff> Activate Parser

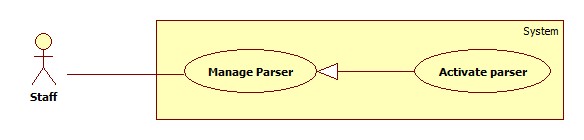


Figure 11: <Staff> Activate Parser

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS008** | | | |
| **Use Case No.** | CPS008 | **Use Case Version** | 1.0 |
| **Use Case Name** | Activate Parser | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 02/06/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to activate a parser   **Goal:**   * Selected parser will be activated.   **Triggers:**   * Staff wants to activate a parser in the system. * Staff clicks “Quản lý parser” menu, clicks “Danh sách parser” then clicks “Không hoạt động” button.   **Preconditions:**   * User has logged in with staff role.   **Post Conditions:**   * **Success**: Selected parser is activated. Show success message. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Danh sách parser” menu. | Show “Danh sách parser” page which includes:   * A table with 4 columns:   + STT   + Link cần lấy   + Trạng thái   + Hành động | | 2 | Staff clicks “Không hoạt động” button.  [Alternative 1]  [Exception 1] | That parser is activated. The button text is changed into “Hoạt động”. Show success message. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks on “Chỉnh sửa”button. | * System will redirect to “Chinh sửa” page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Error while activating parser. | Show error message. |   **Relationships:** N/A  **Business Rules:** Only parsers which have “Không hoạt động” status will be activated. | | | |

Table 8: <Staff> Activate Parser

##### <Staff> Configure System

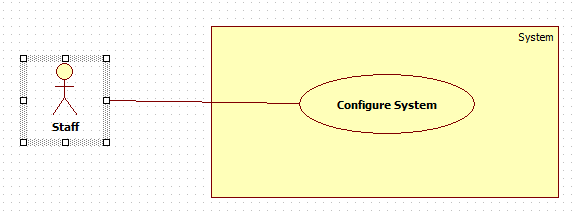
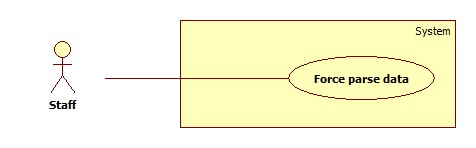


Figure 12: <Staff> Configure System

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS009** | | | |
| **Use Case No.** | CPS009 | **Use Case Version** | 1.0 |
| **Use Case Name** | Configure system | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 02/06/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to configure the system.   **Goal:**   * System parameters will be configured by admin.   **Triggers:**   * Staff wants to change system parameter, such as epsilon number,” Số lần được đề cử của mỗi sản phẩm chờ duyệt” or “Số lần được đề cử của một người dùng trên một sản phẩm”. * From the sidebar:   + Choose “Hệ thống” menu.   + Choose “Cấu hình hệ thống” sub-menu.   **Preconditions:**   * User must log in the system with Staff role.   **Post Conditions:**   * **Success:** New parameter will be saved to configuration file. * **Fail:** Nothing is saved to configuration file.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click at “Cấu hình hệ thống” link in sub-menu. | Show “Cấu hình hệ thống” page which contains:   * Epsilon: textbox, min length: 1, max length: 3, type: integer number, min value: 1, max value: 100, decimal number only, required. * “Số lần đề nghị của một sản phẩm cho 1 người dùng”: textbox, min length: 1, max length: 2, type: integer number, min value: 1, max value: 10, decimal number only, required. * “Số người dùng đề nghị 1 sản phẩm”: textbox, min length: 1, max length: 2, type: integer number, min value: 1, max value: 5, decimal number only, required. * “Thời gian của 1 phiên giao dịch”: drop down box, required, default = “15 minutes”. * Lưu: button. | | 2 | Staff changes system parameters. |  | | 3 | Click on “Lưu” button.  [Exception 1, 2, 3,4,5,6] | * Save data to configuration file. * Show success message. |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Epsilon value is out of range. | Show error message: “Epsilon phải lớn hơn 0 và nhỏ hơn hoặc bằng 100!” | | 2 | Epsilon is not a number. | Show error message: “Epsilon phải là số!” | | 3 | “Số lần đề nghị của một sản phẩm cho 1 người dùng” is not a number. | Show error message: “Số lần đề nghị của một sản phẩm cho 1 người dùng.” | | 4 | “Số lần được đề cử của mỗi sản phẩm chờ duyệt” is out of range | Show error message: “Số lần được đề cử của mỗi sản phẩm chờ duyệt phải lớn hơn 1 và bé hơn 10.” | | 5 | “Số người dùng đề nghị 1 sản phẩm” is not a number. | Show error message: “Số người dùng đề nghị 1 sản phẩm phải là số!” | | 6 | “Số người dùng đề nghị 1 sản phẩm” is out of range. | Show error message: “Số người dùng đề nghị 1 sản phẩm phải lớn hơn 1 và bé hơn 10.” |   **Relationships:** N/A  **Business Rules:**   * Epsilon means: total point of the best product in system. * “Số lần đề nghị của một sản phẩm cho 1 người dùng” means: It prevents for 1 user who have try to break out our system by recommending too many time. * “Số người dùng đề nghị 1 sản phẩm” means: It will let us know which product is searched many time by a lot of user. * “Thời gian của 1 phiên giao dịch”: It will help us to scale up or scale down the system when we have a lot of request. | | | |

Table 9: <Staff> Configure System

##### <Staff> Force parse data



**Figure 13: <Staff> Force parses data**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0010** | | | |
| **Use Case No.** | CPS0010 | **Use Case Version** | 1.0 |
| **Use Case Name** | Force Parse Data | | |
| **Author** | Huynh Thanh Viet | | |
| **Date** | 19/05/2014 | **Priority** | High |
| **Actor:**   * Staff.   **Summary:**   * Staff can force system to parse data at any time.   **Goal:**   * Get data from the url which user suggested.   **Triggers:**   * Staff wants to run the parser at that time. * Staff inputs the url which user suggested to “Đường dẫn sản phẩm” textbox.   **Preconditions:**   * User logged in with “Staff” role.   **Post Conditions:**   * **Success:** New data is inserted to database. Success log file is generated. * **Fail:** Show error message, fail log file is generated.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | At parse data page, staff input an url of product into textbox in “Đường dẫn sản phẩm” panel, then click “Xem trước” button. | * Show “Các bước parse dữ liệu” panel includes a wizard to create a parser with 8 steps. * Show “Xem trước” panel include a frame preview the page of the url which staff inputted. | | 2 | At step 1: “Loại parser” of the wizard, staff select “Dạng lưới” or “Dạng bảng” radio button, then click “Tiếp theo” button. | * Show step 2 of the wizard: “Khung thông tin” includes “Xpath tới khung thông tin” textbox. * Show “Xem trước” panel include a frame preview the page of the url which staff inputted. | | 3 | At step 2: “Khung thông tin”, staff click the mouse at the area which include all of the information of product in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới khung thông tin” filled with the xpath string. * Show step 3 of the wizard: “Tên sản phẩm” includes “Xpath tới tên sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 4 | At step 3: “Tên sản phẩm”, staffs click the mouse at the area which include product’s name in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới tên sản phẩm” filled with the xpath string. * Show step 4 of the wizard: “CPU” includes “Xpath tới CPU” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 5 | At step 4: “CPU”, staffs click the mouse at the area which include CPU information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới CPU” filled with the xpath string. * Show step 5 of the wizard: “RAM” includes “Xpath tới RAM” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 6 | At step 5: “RAM”, staff click the mouse at the area which include RAM information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới RAM” filled with the xpath string. * Show step 6 of the wizard: “Card màn hình” includes “Xpath tới Card màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 7 | At step 6: “Card màn hình”, staffs click the mouse at the area which include VGA information in “Xem trước” panel, then click “Tiếp theo” button. | * Textbox “Xpath tới card màn hình” filled with the xpath string. * Show step 7 of the wizard: “Độ phân giải màn hình” includes “Xpath tới độ phân giải màn hình” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 8 | At step 7: ”Độ phân giải màn hình”, staff click the mouse at the area which include screen resolution information in “Xem trước” panel, then click “Tiếp theo” button. [Alternative 1] | * Textbox “Xpath tới độ phân giải màn hình” filled with the xpath string. * Show step 8 of the wizard: “Giá sản phẩm” includes “Xpath tới giá sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 9 | At step 8: “Giá sản phẩm”, staff click the mouse at the area which include product’s price information in “Xem trước” panel, then click “Tiếp theo” button. [Alternative 2] | * Textbox “Xpath tới giá sản phẩm” filled with the xpath string. * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 10 | Staff click “Hoàn thành” button. | * Send request to the parsed link. * Fetch data from the response based on the inputted XPaths. * Validate data [Exception 1]. * If data is valid, insert to database [Alternative 2]. * Generate success log file. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | At step 7: “Độ phân giải màn hình”, staff click “Tiếp theo” button. [Alternative 1] | * Show step 8 of the wizard: “Giá sản phẩm” includes “Xpath tới giá sản phẩm” textbox. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 2 | At step 8: ”Giá sản phẩm”, staff click “Tiếp theo” button. [Alternative 2] | * Show “Hoàn thành” button. * Show “Xem trước” panel includes a frame preview the page of the url which staff inputted. | | 3 | Staffs follow the wizard to complete the process, then click “Hoàn thành” button. | * If data is valid, insert to database [Alternative 3]. * If fetched product is already in the database, update its information. * Generate success log file. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Data is not valid. | * Don’t insert to database. * Generate fail log file. |   **Relationships:** Login  **Business Rules:**   * If the value of RAM, product’s price is negative or not a number, consider invalid. * Success log file structure:   CPS Success Log File  ======================  - Parsing time:[start\_time]  - Staff: [staff\_username]  ======================  [Parsing link]  - Total items: [total\_item]  - Amount of new item: [new\_item]  - Amout of update item: [update\_item]  - Time elapsed: [time\_elapsed]  ======================   * Fail log file structure:   CPS Fail Log File  ======================  - Parsing time:[start\_time]  - Staff: [staff\_username]  ======================  [Parsing link]  - Total items: [total\_item]  - Parsing status:  + Ten san pham: [prodname\_status]  + CPU: [cpu\_status]  + RAM: [ram\_status]  + VGA: [vga\_status]  + Do phan giai: [display\_status]  + Gia san pham: [price\_status]  - Time elapsed: [time\_elapsed]  ====================== | | | |

Table 10: <Staff> Force parses data

##### <Staff> Create Product

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**Figure 14: <Staff> Create Product**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0011** | | | |
| **Use Case No.** | CPS0011 | **Use Case Version** | 1.0 |
| **Use Case Name** | Create Product | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to create product.   **Goal:**   * New product will be added to the database.   **Triggers:**   * Staff wants to create new product. * To input product manually, staff must do the following steps:   + Click “Quản lý sản phẩm” in the menu.   + Click “Tạo sản phẩm” button.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: New product will be added to the database. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Tạo sản phẩm” button. | Navigate to “Tạo sản phẩm” page which contains:   * Tên sản phẩm: textbox (min length: 5, max length: 50), required. * Tên Hãng: dropdown list. * Chi tiết: rich textbox. * “Thêm sản phẩm” button. * “Thêm hình ảnh” button * “Hủy” button. | | 2 | Enter information into text fields.  Click “Thêm sản phẩm” button to finish. [Alternative 1,2 | System will add product into database.  A new product will be displayed in list product page. Then, redirect to “Quản lý sản phẩm” page. [Exception 1, 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click on “Hủy” button to finish. | Product is not added. System will return back to “Quản lý sản phẩm” page. | | 2 | Session time out. | Display error message: “Bạn rời máy tính quá lâu, vui lòng đăng nhập lại để tiếp tục”.  Redirect to login page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Tên sản phẩm” is not in range [5, 50]. | Display error message: “Tên sản phẩm phải từ 5 đến 50 ký tự”. | | 2 | “Tên sản phẩm” is a blank. | Display error message: “Vui lòng nhập Tên sản phẩm”. |   **Relationships:** N/A  **Business Rules:**   * Staff clicks on “thêm sản phẩm” button. * System will save new product into database. | | | |

Table 11: <Staff> Create Product

##### <Staff> Update Product



**Figure 15: <Staff> Update Product**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0012** | | | |
| **Use Case No.** | CPS0012 | **Use Case Version** |  |
| **Use Case Name** | Update Product | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to update product information.   **Goal:**   * New information will be updated to selected product.   **Triggers:**   * Staff wants to change product information. * To change product information, staff must do the following steps:   + Choose “Quản lý sản phẩm” in sidebar menu.   + Click at product.   + Change information.   + Click “Cập nhật” button to save new data to database.   **Preconditions:**   * User must log in the system with staff role. * There is at least one product in the database.   **Post Conditions:**   * **Success**: New information will be updated to selected product. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Quản lý sản phẩm” sub-menu. | Navigate to “Quản lý sản phẩm” page which contains:   * A table has 6 columns:   + Số thứ tự.   + Mã Sản phẩm   + Tên sản phẩm.   + Tên Hãng.   + Hình ảnh   + Chi tiết   + Trạng Thái * A drop down list:   + Tìm kiếm bằng tên  + Tìm kiếm bằng hang   * Search: text box. * Tìm kiếm: button | | 2 | Click at any product name. | Navigate to “Thông tin sản phẩm” page which contains:   * Tên sản phẩm: textbox, min length: 5, max length: 50, required. * Tên Hãng: drop down list. * Chi Tiết: rich textbox. * Cập nhật: button. * Hủy: button | | 3 | Click “Cập nhật” button.  [Alternative 1,2] | Save new data to the database. Redirect to “Quản lý sản phẩm” page.[Exception 1, 2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Hủy” button. | Redirect to manage product page. | | 2 | Session time out. | Display error message: “Bạn rời máy tính quá lâu, vui lòng đăng nhập lại để tiếp tục”.  Redirect to login page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Tên sản phẩm” is not in range [5, 50]. | Display error message: “Tên sản phẩm phải từ 5 đến 50 ký tự”. | | 2 | “Tên sản phẩm” is a blank. | Display error message: “Vui lòng nhập tên sản phẩm”. |   **Relationships:** N/A.  **Business Rules:**   * Staff clicks “cập nhật” button. * This product will be update information in database. | | | |

Table 12: <Staff> Update Product

##### <Staff> Deactivate Product



Figure 16: <Staff> Deactivate Product

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0013** | | | |
| **Use Case No.** | CPS0013 | **Use Case Version** | 2.0 |
| **Use Case Name** | Deactivate Product | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Staff.   **Summary:**   * This use case allows staff to deactivate product.   **Goal:**   * Selected product will be deactivated.   **Triggers:**   * Staff wants to deactivate a product in the system. * To deactivate a product, staff must do the following steps:   + Choose “Quản lý sản phẩm” in sidebar menu.   + Click on “Không hoạt động” button.  **Preconditions:**   * User must log in the system with staff role. * There is at least one product activated in database.   **Post Conditions:**   * **Success**: Selected product will be deactivated. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Quản lý sản phẩm” menu. | Navigate to “Quản lý sản phẩm” page which contains:   * A table has 6 columns:   + Số thứ tự.   + Mã Sản phẩm   + Tên sản phẩm.   + Tên Hãng.   + Chi tiết   + Trạng thái * A drop down list:   + Tìm kiếm bằng tên  + Tìm kiếm bằng hang   * Search: textbox * Tìm kiếm: button. | | 2 | Click on “không hoạt động” button. | Deactivate selected product. Show success message.  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Session time out | Display error message: “Bạn rời máy tính quá lâu, vui lòng đăng nhập lại để tiếp tục”.  Redirect to login page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot deactivate product due to database connection problem | Show error message: “Thao tác thất bại. Vui lòng thử lại sau!” |   **Relationships: N/A**  **Business Rules:**   * Staff clicks “Không hoạt động” button. * Button is changed label from “Hoạt động” or “Không hoạt động” and colour to red. | | | |

Table 13: <Staff> Deactivate Product

##### <Staff> Import product file



Figure 17: <Staff> Import product file

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0014** | | | |
| **Use Case No.** | CPS0014 | **Use Case Version** | 1.0 |
| **Use Case Name** | Import product file | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff upload excel file about product (laptop) to server and divide data into three lists to show on page.   **Goal:**   * Show three lists on page.   **Triggers:**   * To import a file, staff must do the following steps:   + Click “Nhập laptop từ excel” menu.   + Choose the file, click “Tải lên” button.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: Show three list include: * Error product list show on “Danh sách sản phẩm lỗi” tab. * Duplicate product list show on “Danh sách sản phẩm trùng” tab. * Correct product list show on “Danh sách sản phẩm đúng” * **Fail:** File input is wrong format or file size more than 2mb. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From the staff’s page, staff clicks “Nhập laptop từ excel” link. | Show “Nhập laptop từ excel” page with 2 buttons:   * “Browse” button. * “Tải lên” button. * Three tab include: * “Danh sách sản phẩm đúng” tab. * “Danh sách sản phẩm lỗi” tab. * “Danh sách sản phẩm trùng” tab. | | 2 | From “Nhập laptop từ excel” page, staff clicks “Browse” button, then clicks “Mở”. | System will get file path and show excel name on text box. | | 3 | Staff clicks “Tải lên” button. | File is uploaded to server, then redirect back to “Nhập laptop từ excel” page, contains:   * System will be showed correct product list on table with 11   columns in “Danh sách sản phẩm đúng” tab:   * + “STT”: label.   + “Tên máy”: label.   + “Địa chỉ ảnh”: label.   + “CPU”: label.   + “VGA”: label.   + “HDD”: label.   + “Màn Hình”: label.   + “Ram”: label.   + “Giá”: label.   + “Địa chỉ bán”: label.   + “Xóa” button.   + “Sửa” button. * System will be showed error product list on table with 10 columns in “Danh sách sản phẩm lỗi” tab:   + “STT” : label   + “Tên Máy”: textbox (min length: 5 max length: 100, required).   + “Địa chỉ ảnh”: textbox (image URL is exists, required).   + “CPU”: textbox (min length: 5 max length: 100, required).   + “VGA”: textbox (min length: 5 max length: 100, required).   + “Màn Hình”: textbox (min length: 1 max length: 100, required).   + “Ram”: textbox (min length: 1 max length: 100, required).   + “Giá”: textbox (Double, required).   + “Địa chỉ bán”: textbox (URL is exits, required).   + “Lưu” button. * System will be showed tables include duplicate product with 11 columns in “Danh sách sản phẩm trùng” tab:   + Checkbox.   + “Tên Máy” labels.   + “Địa chỉ ảnh” labels.   + “CPU” labels.   + “VGA” labels.   + “HDD” labels.   + “Màn hình” labels.   + “Ram” labels.   + “Giá” labels.   + “Địa chỉ máy” labels.   + “Chọn tên chính” radio button.   + “Gộp” button.   + “Tách” button.   [Exception1,2,3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | File input is wrong format. | Display error message: “Hệ thống chỉ hỗ trợ file excel”. | | 2 | File size not range [0- 2] Mb. | Display error message: “Kích thước file không được vượt quá 2Mb”. | | 3 | File has more 5 errors. | Display error message: “File có quá nhiều lỗi vui lòng sửa lại trước khi sử dụng”. Show line error. |   **Relationships:** N/A  **Business Rules:**   * Format file is excel (.xlsx/.xls) * Max length of file is 2Mb. * The product exists in database will be ignored. * Valid file format :      * If system detects more than 5 errors, System will show error message list error products. * Else system will show three list include: * System will check and move error products to error products list and show that on “Danh sách sản phẩm lỗi” tab. * Error products include error: * “Tên Máy” is not in range [5, 100]. * “Địa chỉ ảnh” does not exist. * “Kích thước màn hình”is not in range [1, 100]. * “CPU” is not in range [5, 100]. * “HDD” is not in range [5, 100]. * “VGA” is not in range [5, 100]. * “Ram” is not in range [5, 100]. * “Giá” is not in range [5, 100]. * “Địa chỉ máy” does not exist. * System detect by compare product name algorithms and after that move duplicate products to duplicate products list and show that on “Danh sách sản phẩm trùng” tab. * Duplicate products are product similar name >80% by algorithms:   Example:  FRANCE: {FR, RA, AN, NC, CE}  FRENCH: {FR, RE, EN, NC, CH}  = = 0.4   * System will show correct product list on “Danh sách sản phẩm đúng” tab. | | | |

Table 14: <Staff> Import product file

##### <Staff> Process error product

System

**Staff**

**Manager product**

**Import product file**

**Save corect product**

<<extend>>

**Process error product**

<<extend>>

Figure 19: <Staff> Process error product

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0016** | | | |
| **Use Case No.** | CPS0016 | **Use Case Version** | 1.0 |
| **Use Case Name** | Process error product | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to process error products.   **Goal:**   * Get correct product from error products.   **Triggers:**   * Staff wants to fix product information in error product list. * To process an error product, staff must do the following steps: * Edit product information. * Click “Lưu” button.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Error product list is available.   **Post Conditions:**   * **Success**: * Error product will be fixed and transfer to correct product list or duplication product list. * **Fail:** Fixed product still error. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition error product list available. Staff clicks “Danh sách sản phẩm lỗi” tab. | * Interface appears, table with 10 columns:   + “STT” : label   + “Tên Máy”: textbox (min length: 5 max length: 100, required).   + “Địa chỉ ảnh”: textbox (image URL is exists, required).   + “CPU”: textbox (min length: 5 max length: 100, required).   + “VGA”: textbox (min length: 5 max length: 100, required).   + “Màn Hình”: textbox (min length: 1 max length: 100, required).   + “Ram”: textbox (min length: 1 max length: 100, required).   + “Giá”: textbox (Double, required).   + “Địa chỉ bán”: textbox (URL is exits, required).   + “Lưu” button | | 2 | Edit product information in row. Then click “Lưu” button | Product information will be updated.  The system will be compared this product name with products in duplicate products list and correct products list. System detects duplicate products. Then move duplicate products to duplicate products list. Else system transfer product to correct product list.  [Exception 1, 2, 3, 4, 5, 6, 7, 8, 9] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Tên Máy” is not in range [5, 100]. | Display error message: “Lỗi tên sản phẩm (phải từ 5 tới 100 ký tự)”. “Tên Máy” border color textbox is red. | | 2 | “Địa chỉ ảnh” does not exist. | Display error message: “Lỗi liên kết ảnh sản phẩm (phải tồn tại)”. “Địa chỉ ảnh” border color textbox is red. | | 3 | “Kích thước màn hình”is not in range [1, 100]. | Display error message: “Thông tin kích thướng màn hình (không được để trống)”. “Kích thước màn hình” border color textbox is red. | | 4 | “CPU” is not in range [5, 100]. | Display error message: “Lỗi thông tin CPU sản phẩm (phải từ 5 tới 100 ký tự)”. “CPU” border color textbox is red. | | 5 | “HDD” is not in range [5, 100]. | Display error message: “Lỗi thông tin HDD của sản phẩm (Không được để trống và quá 100 ký tự)”. “HDD” border color textbox is red. | | 6 | “VGA” is not in range [5, 100]. | Display error message: “Lỗi thông tin VGA sản phẩm (phải từ 5 tới 100 ký tự)”. “VGA” border color textbox is red. | | 7 | “Ram” is not in range [5, 100]. | Display error message: “Lỗi thông tin Ram của sản phẩm (Không được để trống và quá 100 ký tự)”. “Ram” border color textbox is red. | | 8 | “Giá” is not in range [5, 100]. | Display error message: “Lỗi thông tin Giá của sản phẩm (Phải là số nguyên dương)”. “Giá” border color textbox is red. | | 9 | “Địa chỉ máy” does not exist. | Display error message: “Lỗi liên kết sản phẩm (phải tồn tại)”. “Địa chỉ máy” border color textbox is red. |   **Relationships:** Login, Import Product File.  **Business Rules:**   * System compare products by product name with compare product name algorithms between fixed product and duplicate product list, correct product list. * If systems detect duplicate products, System will move duplicate products to duplicate products list. * Duplicate products are product similar name >80% by algorithms:   Example:  FRANCE: {FR, RA, AN, NC, CE}  FRENCH: {FR, RE, EN, NC, CH}  = = 0.4   * Else system will move correct products to list products. | | | |

Table 16: <Staff> Process error product

##### <Staff> Process duplicate product

System

**Staff**

**Manager product**

**Import product file**

**Save corect product**

<<extend>>

**Process duplicate product**

<<extend>>

Figure 20: <Staff> Process duplicate product

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0017** | | | |
| **Use Case No.** | CPS0017 | **Use Case Version** | 1.0 |
| **Use Case Name** | Process duplicate product | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to process duplicate products.   **Goal:**   * Get correct product from duplicate products.   **Triggers:**   * Staff wants to join or divide products in duplicate products list. * To join products, staff must do the following steps: * Select at least 2 products. * Click “Gộp” button. * To divide products, staff must do the following steps: * Select products by checkbox. * Click “Tách” button.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Duplicate product list is available.   **Post Conditions:**   * **Success**: Duplicate product will be joined or divided and transfer to correct product list. * **Fail:** Not enough products to join, not yet choose product key name. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate product list available.  Click “Danh sách sản phẩm trùng” tab. | Interface appears:   * Tables include duplicate product with 11 columns:   + Checkbox.   + “Tên Máy” labels.   + “Địa chỉ ảnh” labels.   + “CPU” labels.   + “VGA” labels.   + “HDD” labels.   + “Màn hình” labels.   + “Ram” labels.   + “Giá” labels.   + “Địa chỉ máy” labels.   + “Chọn tên chính” radio button. * “Gộp” button. * “Tách” button. | | 2 | Select products by checkbox and select “Chọn tên chính” radio button, Then click “Gộp” button.  [Alternative1] | Selected products will be joined. And move to correct products list. If table still only 1 product. The product move to correct product list.  [Exception 1,2] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Click “Tách” button  [Alternative2] | Products in table will be divided. And move to correct products list. |  |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 2 | Select products by checkbox. Then click “Tách” button | New table create and contain selected products. If old table still only 1 product. The product move to correct product list.  [Exception 1] |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Check only 1 checkbox. | Display error message: “Vui lòng chọn ít nhất 2 sản phẩm”. | | 2 | Don’t select “Chọn tên chính” radio button for checked product. | Display error message: “Vui lòng chọn tên chính cho những sản phẩm đã chọn”. |   **Relationships:** Login, Import File.  **Business Rules:**   * Products will be joined by product name. * Merge: make two or more names refer to one product. System will be joined products by product name and separated by “;”. Then, system will be move joined products to correct product list. * Split: different names mean different products. System will move both products to correct product list. | | | |

Table 17: <Staff> Process duplicate product

##### <Staff> Save correct product

System

**Staff**

**Manager product**

**Import product file**

**Save corect product**

<<extend>>

Figure 21: <Staff>save correct product

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0018** | | | |
| **Use Case No.** | CPS0018 | **Use Case Version** | 1.0 |
| **Use Case Name** | Save correct product | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff adds products to database by import data from excel files.   **Goal:**   * Add new many products from imported files.   **Triggers:**   * Staff wants to save correct products by importing excel files. * To save correct products, staff must do the following steps:   + Click “Danh sách sản phẩm đúng” tab.   + Click “Lưu” button.   + Click “Hoàn Thành” button on popup.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Correct product list is available.   **Post Conditions:**   * **Success**: Products not available in database will be added to the database.   Products similar name with product in database will be moved to duplicate products list.   * **Fail:** Show error list and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition correct product list available.  Click “Danh sách sản phẩm trùng” in menu tab. | File is uploaded to server, then redirect back to “Nhập từ excel” page, contains:   * “Danh sách sản phẩm đúng” tab:   + “STT”: label.   + “Tên máy”: label.   + “Địa chỉ ảnh”: label.   + “CPU”: label.   + “VGA”: label.   + “HDD”: label.   + “Màn Hình”: label.   + “Ram”: label.   + “Giá”: label.   + “Địa chỉ bán”: label.   + “Xóa” button.   + “Sửa” button. * “Lưu” button. * “Hủy” button. | | 2 | Staff clicks “Xóa” button to delete a product.  [Alternative 1] | The product will be deleted in correct product list. | | 3 | Staff clicks “Lưu” button to save product. [Alternative 2] | Compare products in correct products list with database by product name.  Duplicate products will be moved to duplicate products list.  Correct product will be inserted into database.  [Exception 1] | | 4 | Recondition duplicate product list available.  Click “Danh sách sản phẩm trùng” tab. | Interface appears:   * “Lưu file” button. * Tables include duplicate product with 10 columns:   + Checkbox.   + “Tên Máy” labels.   + “Địa chỉ ảnh” labels.   + “CPU” labels.   + “VGA” labels.   + “HDD” labels.   + “Màn hình” labels.   + “Ram” labels.   + “Giá” labels.   + “Địa chỉ máy” labels. * “Gộp” button. * “Tách” button. | | 5 | Staff click “Gộp” button.  [Alternative3] | The product will be inserting to database. Its alias name of a product available in database. |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Sửa” button to fix product. | Popup Interface appears:   * + “Tên Laptop”: textbox (min length: 5 max length: 100, required).   + “Đường dẫn ảnh”: textbox (image URL is exists, required).   + “CPU”: textbox (min length: 5 max length: 100, required).   + “VGA”: textbox (min length: 5 max length: 100, required).   + “Màn Hình”: textbox (min length: 1 max length: 100, required).   + “Ram”: textbox (min length: 1 max length: 100, required).   + “Giá”: textbox (Double, required).   + “Địa chỉ bán”: textbox (URL is exits, required).   “Lưu” button | | 2 | Staff clicks “Lưu” button to fix product. | Product information will be update and popup close.  [Exception 2, 3, 4, 5, 6, 7, 8, 9, 10] |   [Alternative2]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Hủy” button to finish. | Refresh current page and clear all data. |   [Alternative3]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff click “Tách” button. | Product will be inserting to database. Its new product in database. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Don’t have any product to save. | Display error message: “Chưa có sản phẩm nào để lưu”. | | 2 | “Tên Máy” is not in range [5, 100]. | Display error message: “Lỗi tên sản phẩm (phải từ 5 tới 100 ký tự)”. “Tên Máy” border color textbox is red. | | 3 | “Địa chỉ ảnh” does not exist. | Display error message: “Lỗi liên kết ảnh sản phẩm (phải tồn tại)”. “Địa chỉ ảnh” border color textbox is red. | | 4 | “Kích thước màn hình”is not in range [1, 100]. | Display error message: “Thông tin kích thướng màn hình (không được để trống)”. “Kích thước màn hình” border color textbox is red. | | 5 | “CPU” is not in range [5, 100]. | Display error message: “Lỗi thông tin CPU sản phẩm (phải từ 5 tới 100 ký tự)”. “CPU” border color textbox is red. | | 6 | “HDD” is not in range [5, 100]. | Display error message: “Lỗi thông tin HDD của sản phẩm (Không được để trống và quá 100 ký tự)”. “HDD” border color textbox is red. | | 7 | “VGA” is not in range [5, 100]. | Display error message: “Lỗi thông tin VGA sản phẩm (phải từ 5 tới 100 ký tự)”. “VGA” border color textbox is red. | | 8 | “Ram” is not in range [5, 100]. | Display error message: “Lỗi thông tin Ram của sản phẩm (Không được để trống và quá 100 ký tự)”. “Ram” border color textbox is red. | | 9 | “Giá” is not in range [5, 100]. | Display error message: “Lỗi thông tin Giá của sản phẩm (Phải là số nguyên dương)”. “Giá” border color textbox is red. | | 10 | “Địa chỉ máy” does not exist. | Display error message: “Lỗi liên kết sản phẩm (phải tồn tại)”. “Địa chỉ máy” border color textbox is red. |   **Relationships:** Login, Import File.  **Business Rules:**   * System will compare correct product list with database by compare string algorithms. * If systems detect duplicate products, System will move duplicate products to duplicate product list. * System will add correct products to database. | | | |

Table 18: <Staff> save correct product

##### <Staff> Write log file

System

**Staff**

**Manager product**

**Import product file**

**Write log file**

<<extend>>

Figure 22: <Staff> Write log file

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0019** | | | |
| **Use Case No.** | CPS0019 | **Use Case Version** | 1.0 |
| **Use Case Name** | Write log file | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to create log file of duplicate products.   **Goal:**   * Log file will be generated.   **Triggers:**   * Staff wants to create log file of duplicate products. * To create log file, staff must do:   + Click “Lưu” button in “Danh sách sản phẩm đúng” tab.   + Click “Sản phẩm trùng” checkbox or “Sản phẩm lỗi” checkbox on popup.   + Click “Hoàn thành” button.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful.   **Post Conditions:**   * **Success**: Log file will be generated. * **Fail:** Show error message and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate product list or error product list available.  Staff clicks “Danh sách sản phẩm đúng” tab. | * “Danh sách sản phẩm đúng” tab:   + “STT”: label.   + “Tên máy”: label.   + “Địa chỉ ảnh”: label.   + “CPU”: label.   + “VGA”: label.   + “HDD”: label.   + “Màn Hình”: label.   + “Ram”: label.   + “Giá”: label.   + “Địa chỉ bán”: label.   + “Xóa” button.   + “Sửa” button. * “Lưu” button. * “Hủy” button. | | 2 | Staff clicks “Lưu” button | * Popup will show include:   + “Sản phẩm trùng”: checkbox.   + “Sản phẩm lỗi”: checkbox.   + “Hoàn Thành” button. | | 3 | Staff checks “Sản Phẩm Trùng”, “Sản phẩm lỗi” checkbox. | * System will save duplicate product on duplicate product list to LapDataTraning.txt text file on server. System will save error product on error product list to ErrorLap.txt text file on server. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Login, Import File.  **Business Rules:**   * System recorded log file and staff will use them for training the system then. * Product duplicate will be recorded by each row of each table and seceded by “#”. The product name, image link, cpu, vga, ram, display, price seceded by “|”. * Product error will be recorded by each row of each table and seceded by “#”. | | | |

Table 19: <Staff> Write log file

##### <Staff> Import hardware file

System

**Staff**

**Manager product**

**Import hardware file**

**Write log file**

**Save correct hardware**

<<extend>>

<<extend>>

Figure 23: <Staff> Import hardware file

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0014** | | | |
| **Use Case No.** | CPS0014 | **Use Case Version** | 1.0 |
| **Use Case Name** | Import hardware file | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff upload excel file about hardware (cpu, vga, hdd display, ram) to server and divide data into three lists.   **Goal:**   * Divide data into three lists and show on page.   **Triggers:**   * To import a file, staff must do the following steps:   + Click “Nhập từ excel” menu.   + Choose the file, click “Tải lên” button.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: : Show three list include: * Error hardware list show on “Danh sách thành phần lỗi” tab. * Duplicate hardware list show on “Danh sách thành phần trùng” tab. * Correct hardware list show on “Danh sách thành phần đúng” * **Fail:** File input is wrong format or file size more than 2mb. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From the staff’s page, staff clicks “Nhập linh kiện từ Excel” link. | Show “Nhập linh kiện từ excel” page with 2 buttons:   * “Browse” button. * “Tải lên” button. | | 2 | From “Nhập linh kiện từ excel” page, staff clicks “Browse” button, then clicks “Mở”. | System will get file path and show excel name on text box. | | 3 | Staff clicks “Tải lên” button. | File is uploaded to server, then redirect back to “Nhập từ excel” page, contains:   * System will be showed correct hardware list on table with 5 columns in “Danh sách thành phần đúng” tab:   + “STT”: label.   + “Tên thành phần”: label.   + “Trọng số”: label.   + “Loại”: label.   + “Xóa” button. * System will be showed error hardware list on table with 5 columns in “Danh sách thành phần lỗi” tab:   + “STT” : label   + “Tên thành phần”: textbox (min length: 5 max length: 100, required).   + “Trọng số”: textbox (interger required).   + “Loại”: textbox (“C” or “V” or “R” or “H” or “D”, required).   + “Lưu” button. * System will be showed duplicate hardware lists on tables with 4 columns in “Danh sách thành phần trùng” tab:   + “Chọn” checkbox.   + “Tên”: textbox (min length: 5 max length: 100, required).   + “Trọng số”: textbox (min length: 1 max length: 100, required).   + “Loại”: textbox (min length: 1 max length: 5, required).   + “Chọn tên chính” radio button.   + “Gộp” button.   + “Tách” button.   [Exception1,2,3] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | File input is wrong format. | Display error message: “Hệ thống chỉ hỗ trợ file excel”. | | 2 | File size not range [0- 2] Mb. | Display error message: Kích thước file không được vượt quá 2Mb”. | | 3 | File has more than 5 errors | Display number of error rows. |   **Relationships:** N/A  **Business Rules:**   * Format file is excel (.xlsx/.xls) * Max length of file is 2Mb. * Valid file format : * If system detects more than 5 errors, System will show error message list errer hardwares. * Else system will show three list include: * System will check and move error hardwares to error hardwares list and show that on “Danh sách thành phần lỗi” tab. * Error products in excel:   C:\Users\hiepkhach\Desktop\error.png   * System detect by compare hardwares name algorithms and after that move duplicate hardwares to duplicate hardwares list and show that on “Danh sách thành phần trùng” tab. * Duplicate products in excel:   C:\Users\hiepkhach\Desktop\Duplicate.png   * Duplicate hardwares are hardwares similar name >80% by algorithms:   Example:  FRANCE: {FR, RA, AN, NC, CE}  FRENCH: {FR, RE, EN, NC, CH}  = = 0.4  System will show correct hardwares list on “Danh sách thành phần đúng” tab. | | | |

Table 14: <Staff> Import hardware File

##### <Staff> Process error hardware



Figure 25: <Staff> Process error hardware

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0016** | | | |
| **Use Case No.** | CPS0016 | **Use Case Version** | 1.0 |
| **Use Case Name** | Process error hardware | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to process error hardware.   **Goal:**   * Get correct hardware from error hardware.   **Triggers:**   * Staff wants to fix hardware information in error hardware list.   + To process an error hardware, staff must do the following steps: * Edit hardware information. * Click “Lưu” button.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Error hardware list is available.   **Post Conditions:**   * **Success**: Error hardware will be fixed and transfer to correct product list or duplication hardware list. * **Fail:** Fixed hardware still error. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition error hardware list available.  Click “Thành phần cấu hình lỗi” tab. | Interface appears, include table with 4 columns:   * + “STT” : label   + “Tên thành phần”: textbox (min length: 5 max length: 100, required).   + “Trọng số”: textbox (min length: 1 max length: 100, required).   + “Loại”: textbox (min length: 1 max length: 5, required).   + “Lưu” button. | | 2 | Edit hardware information in row. Then click “Lưu” button | Hardware information will be updated.  The system will be compared this hardware name with hardware in duplicate hardwares list and correct hardwares list.  If system detects duplicate hardwares. Then move duplicate hardwares to duplicate hardwares list.  Else system transfer correct hardware to correct hardware list. |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Tên” is not in range [5, 100]. | Display error message: “Tên thành phần phải từ 5 đến 100 ký tự”. | | 2 | “Trọng số” is not in range [5, 100]. | Display error message: “Trọng số phải từ 1 đến 100”. | | 3 | “Loại” is not “C” or “V” or “R” or “H” or “D”. | Display error message: “Loại” phải là “C” hoặc “V” hoặc “R” hoặc “H” hoặc “D”. |   **Relationships:** Login, Import File.  **Business Rules:**   * System compare hardwares by hardware name with compare hardware name algorithms between fixed hardware and duplicate product list, correct hardware list. * If systems detect duplicate hardwares, System will move duplicate hardwares to duplicate products list. * Else system will move correct hardwares to list products. | | | |

Table 17: <Staff> Process error hardware

##### <Staff> Process duplicate hardware



Figure 26: <Staff> Process duplicate hardware

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0017** | | | |
| **Use Case No.** | CPS0017 | **Use Case Version** | 1.0 |
| **Use Case Name** | Process duplicate hardware | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to process duplicates hardwares.   **Goal:**   * Get correct product from duplicate hardwares.   **Triggers:**   * Staff wants to join or divide hardwares in duplicate hardwares list. * To join hardwares, staff must do the following steps: * Select at least 2 hardwares. * Click “Gộp” button. * To divide hardwares, staff must do the following steps: * Select hardwares by checkbox. * Click “Tách” button.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Duplicate hardware list is available.   **Post Conditions:**   * **Success**:   Duplicate hardware will be joined or divided and transfer to correct hardware list.   * **Fail:** Not enough hardwares to join, not yet choose hardwares key name. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate hardware list available.  Click “Thành phần cấu hình trùng” tab. | Interface appears:   * Tables include duplicate hardware with 5 columns:   + “Chọn” checkbox.   + “Tên”: textbox (min length: 5 max length: 100, required).   + “Trọng số”: textbox (min length: 1 max length: 100, required).   + “Loại”: textbox (“C” or “V” or “R” or “H” or “D).   + “Chọn tên chính” radio button.   “Gộp” button.  “Tách” button. | | 2 | Select hardwares by checkbox. Then click “Gộp” button.  [Alternative1] | Selected hardwares will be joined. And move to correct hardwares list. If table still only 1 hardware. The product move to correct product list.  [Exception 1,2] |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Tách” button  [Alternative2] | Selected hardwares will be divided. And move to correct products list. |   [Alternative2]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Select hardwares by checkbox. Then click “Tách” button | New table create and contain selected hardwares. If old table has a hardware. The hardware move to correct hardware list.  [Exception 1] |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Select at least 2 products | Display error message: “Vui lòng chọn ít nhất 2 sản phẩm”. | | 2 | Don’t select “Chọn tên chính” radio button for checked hardware. | Display error message: “Vui lòng chọn tên chính cho những thành phần đã chọn”. |   **Relationships:** Login, Import File.  **Business Rules:**   * Products will be joined by product name. * Merge: make two or more names refer to one product. System will be joined products by product name and separated by “;”. Then, system will be move joined products to correct product list. * Split: different names mean different products. System will move both products to correct product list. | | | |

Table 21: <Staff> Process duplicate hardware

##### <Staff> Save correct hardware



Figure 27: <Staff>save correct hardware

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0018** | | | |
| **Use Case No.** | CPS0018 | **Use Case Version** | 1.0 |
| **Use Case Name** | Save correct hardware | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff adds hardwares to database by import data from excel files.   **Goal:**   * Create much hardware from imported files.   **Triggers:**   * Staff wants to save correct hardwares by importing excel files. * To save correct hardwares, staff must do the following steps:   + Click “Danh sách thành phần đúng” tab.   + Click “Lưu” button.   + Click “Hoàn Thành” button on popup.   **Preconditions:**   * User must log in the system with staff role. * Parse data from excel successful. Correct hardware list is available.   **Post Conditions:**   * **Success**: Hardwares not available in database will be added to the database.   Hardwares similar name with hardware in database will be moved to duplicate hardware list.   * **Fail:** Show error list and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition correct hardware list available.  Click “Danh sách thành phần đúng” in menu tab. | Interface appears:   * A 4-columns table show detail of hardwares in excel file. Column header includes:   + “STT” label.   + “Tên” label.   + “Trọng số” label.   + “Loại” label.   + “Xóa” button. * “Lưu” button. * “Hủy” button.   [Exception 1, 2, 3] | | 2 | Staff clicks “Xóa” button to delete a product. | The hardware will be deleted in correct hardwares list. | | 3 | Staff clicks “Lưu” button to save product. [Alternative 1] | Compare hardwares in correct hardwares list with database by hardware name. Duplicate hardwares will be moved to duplicate hardwares list.  Else correct hardware will be inserted into database.  [Exception 4] | | 4 | Recondition duplicate hardware list available.  Click “Danh sách thành phần trùng” tab. | Interface appears:   * “Lưu file” button. * Tables include duplicate product with 10 columns:   + Checkbox.   + “Tên Máy” labels.   + “Địa chỉ ảnh” labels.   + “CPU” labels.   + “VGA” labels.   + “HDD” labels.   + “Màn hình” labels.   + “Ram” labels.   + “Giá” labels.   + “Địa chỉ máy” labels. * “Gộp” button. * “Tách” button. | | 5 | Staff click “Gộp” button.  [Alternative2] | The hardware will be inserting to database. Its alias name of available hardware in database. |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click on “Hủy” button to cancle all. | Refresh current page and clear all data. |   [Alternative2]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff click “Tách” button. | The hardware will be inserting to database. Its new hardware in database. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | “Tên” is not in range [5, 100]. | Display error message: “Tên sản phẩm phải từ 5 đến 100 ký tự”. | | 2 | “Trọng số” is not in range [1, 100]. | Display error message: “Trọng số phải từ 1 đến 100”. | | 3 | “Loại”is not in range [1,5]. | Display error message: “Loại” phải từ 1 đến 5 ký tự”. | | 4 | Fail to insert to database. | Display error message: “Lỗi kết nốt cơ sở dữ liệu vui lòng thử lại”. |   **Relationships:** Login, Import File.  **Business Rules:**   * System will compare correct hardware list with database by compare string algorithms. * If systems detect duplicate hardwares, System will move duplicate hardwares to duplicate hardwares list. * System will add correct hardwares to database. | | | |

Table 22: <Staff> save correct product

##### <Staff> Write log file

System

**Staff**

**Manager product**

**Import hardware file**

**Write log file**

<<extend>>

Figure 28: <Staff> Write log file

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0019** | | | |
| **Use Case No.** | CPS0019 | **Use Case Version** | 1.0 |
| **Use Case Name** | Write log file | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to create log file of duplicate hardwares.   **Goal:**   * Log file will be generated.   **Triggers:**   * Staff wants to create log file of duplicate hardwares. * To create log file, staff must do:   + Click “Lưu” button in “Danh sách thành phần đúng” tab.   + Click “Hoàn thành” button on popup.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: Log file will be generated. Show message. * **Fail:** Show error message and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate hardwares list available.  Staff clicks “Danh sách thành phần đúng” in menu tab. | Interface appears:   * A 4-columns table show detail of hardwares in excel file. Column header includes:   + “STT” label.   + “Tên” label.   + “Trọng số” label.   + “Loại” label.   + “Xóa” button. * “Lưu” button. * “Hủy” button. | | 2 | Staff clicks “Lưu” button. | Popup show interface appears:   * “Sản phẩm trùng” checkbox (checked). * “Hoàn thành” button. | | 3 | Staff clicks “Hoàn thành” button. | System will generate duplicate hardware in duplicate hardware list to “ProductName.txt” file on server. |   **Alternative Scenario:** N/A  **Exceptions:** N/A  **Relationships:** Login, Import File.  **Business Rules:**  - System recorded log file and staff will use them for training the system then.  - Duplicate hardware will be recorded by each row of each table and seceded by “#”. The hardware name, type, weight seceded by “|”.  + Log file format:  C:\Users\hiepkhach\Desktop\logfileDuplicatehardware.png | | | |

Table 23: <Staff> Write log file

##### <Staff> Confirm new product.



Figure 29: <Staff> Confirm new product.

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0019** | | | |
| **Use Case No.** | CPS0019 | **Use Case Version** | 1.0 |
| **Use Case Name** | Confirm new product. | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to active or mapping new product (laptop) with available product (laptop) in database.   **Goal:**   * New laptop available in database.   **Triggers:**   * Staff wants to confirm new product. * To confirm new product, staff must do:   + Click “Xác nhận laptop mới” link on staff menu bar.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: New product is active or new product is other name of available product in database. * **Fail:** Show error message and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Xác nhận laptop mới”. | Navigate to “Xác nhận laptop mới” page which contains:   * A table with 4 columns:   + “ID” (label).   + “Tên Laptop” (label).   + “Kích hoạt” (button).   + “Hủy bỏ” (link button). | | 2 | Staff clicks “Kích Hoạt” button. | * Popup will show with contents: * “Tên Laptop” (textbox) * “Tên Laptop Map” (dropdownlist). * “CPU” (textbox) * “CPU Map” (dropdownlist). * “VGA” (textbox) * “VGA Map” (dropdownlist). * “HDD” (textbox) * “HDD Map” (dropdownlist). * “Ram” (textbox) * “Ram Map” (dropdownlist). * “Display” (textbox). * “Display Map” (dropdownlist). * “Lưu” (button). | | 3 | Staff chosen dropdownlist maping and clicks “Lưu” button.  [Alternative2] | If staff mapping laptop, The laptop will be alias name of available laptop in database. Close popup. The product disappears on table.  Else system active product in database. Close popup. The product disappears on table. |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Hủy bỏ” button. | System deactive product in database. The product disappears on table. |   **Exceptions:** N/A  **Relationships:** Login.  **Business Rules:**   * If product not yet available in database, staff will active product. * Else staff will mapping with available in database. | | | |

Table 24: <Staff> Confirm new product.

##### <Staff> Confirm new hardware.



Figure 30: <Staff> Confirm new hardware.

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0019** | | | |
| **Use Case No.** | CPS0019 | **Use Case Version** | 1.0 |
| **Use Case Name** | Confirm new hardware. | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff to active or mapping new hardware (CPU, VGA, HDD, Ram, Display) with available hardware in database.   **Goal:**   * New hardware available in database.   **Triggers:**   * Staff wants to confirm new hardware. * To confirm new hardware, staff must do:   + Click “Xác nhận thành phần mới” link on staff menu bar.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: New hardware is active or new hardware is other name of available hardware in database. * **Fail:** Show error message and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click menu item “Xác nhận linh kiện mới”. | Navigate to “Xác nhận linh kiện mới” page which contains:   * A table with 4 columns:   + ID (label).   + Tên thành phần (label).   + Loại (label).   + Laptop chứa thành phần (label).   + Kích Hoạt (button).   + Hủy (button). | | 2 | Staff clicks “Kích Hoạt” button.  [Alternative1] | * Popup will show with contents: * “Laptop” textbox. * “Tên thành phần” textbox.   + “Thành phần Map” (dropdownlist).   + “Trọng số” (textbox) disable.   + “Lưu” (button). | | 3 | Staff clicks “Lưu” button. | If staff mapping hardware, The hardware will be alias name of available hardware in database. Close popup. The hardware disappears on table.  Else system active hardware in database. Close popup. The hardware disappears on table. |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Staff clicks “Hủy bỏ” button. | System deactive hardware in database. The hardware disappears on table. |   **Exceptions:** N/A  **Relationships:** Login.  **Business Rules:**   * If product not yet available in database, staff will active product. * Else staff will mapping with available in database. | | | |

Table 25: <Staff> Confirm new product.

##### <Staff> Training Duplicate Hardware.



Figure 30: <Staff> Training Duplicate Hardware.

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0019** | | | |
| **Use Case No.** | CPS0019 | **Use Case Version** | 1.0 |
| **Use Case Name** | Training Duplicate Hardware | | |
| **Author** | Tran Tan Len | | |
| **Date** | 1/06/2014 | **Priority** | High |
| **Actor:**   * Staff   **Summary:**   * This use case allows staff traning duplicate product in text file on server.   **Goal:**   * Add hardware or new alias hardware name to database.   **Triggers:**   * Staff wants training to join or divide hardware in duplicate hardware list. * To join hardware, staff must do the following steps: * Select at least 2 hardware. * Click “Gộp” button. * To divide hardware, staff must do the following steps: * Select hardware by checkbox. * Click “Tách” button.   **Preconditions:**   * User must log in the system with staff role.   **Post Conditions:**   * **Success**: New hardware is inserting or new hardware is other name of available hardware in database. * **Fail:** Show error message and require staff try one more time.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate product list available.  Click “Linh kiện trùng nhau” tab.  [Alternative1] | Interface appears:   * Tables include duplicate hardware with 5 columns:   + “Chọn” checkbox.   + “Tên”: label.   + “Trọng số”: label.   + “Loại”: label (“C” or “V” or “R” or “H” or “D).   + “Chọn tên chính” radio button.   + “Gộp” button.   + “Tách” button. | | 2 | Select hardwares by checkbox. Then click “Gộp” button.  [Alternative2] | Selected hardwares will be joined by name. System checks the hardware with available hardware in database by name. If two names is duplicate. System will move hardware to list hardware duplicate with database.  Else system will be insert hardware to database. If table still only 1 hardware. System will be inserting the hardware to database.  [Exception 1,2] |   **Alternative Scenario:**  [Alternative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Recondition duplicate product with database list available.  Click “Trùng với dữ liệu hệ thống” tab. | Interface appears:   * Tables include duplicate hardware with 4 columns:   + “Chọn” checkbox.   + “Tên”: label.   + “Trọng số”: label   + “Loại”: label (“C” or “V” or “R” or “H” or “D).   + “Gộp” button.   + “Tách” button. | | 2 | Click “Gộp” button.  [Alternative3] | The product will be inserting to database. Its alias name of available hardware in database. |   [Alternative2]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Tách” button | System checks the hardware with available hardware in database by name. If two names is duplicate. System will move hardware to list hardware duplicate with database.  Else system will be insert new hardware to database. If table still only 1 hardware. System will be inserting the hardware to database. |   [Alternative3]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Then click “Tách” button | The product will be inserting to database. Its new hardware in database. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Select at least 2 products | Display error message: “Vui lòng chọn ít nhất 2 sản phẩm”. | | 2 | Don’t select “Chọn tên chính” radio button for checked hardware. | Display error message: “Vui lòng chọn tên chính cho những thành phần đã chọn”. |   **Relationships:** Login.  **Business Rules:**   * Hardwares will be joined by hardware name. * Merge: make two or more names refer to hardware. System will be joined hardwares by hardware name and separated by “;”. * Split: different names mean different hardware. | | | |

Table 25: <Staff> Training Duplicate Hardware.

#### < Member> Overview Use Case

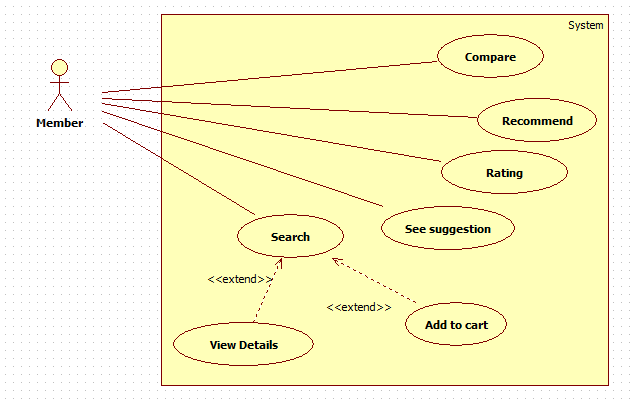


Figure 29: <Member> Overview Use Case

##### <Member> Recommend



**Figure 30: <Member> Recommend**

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| --- | --- | --- | --- |
| **USE CASE - CPS0020** | | | |
| **Use Case No.** | CPS0020 | **Use Case Version** | 1.0 |
| **Use Case Name** | Recommend | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Member.   **Summary:**   * This use case allows member to recommend product.   **Goal:**   * New recommendation will be inserted into the database.   **Triggers:**   * Member wants to recommend product for the system. * To recommend, Member must do the following steps:   + From “Không tìm thấy” page:   Member fills data to textboxes in “Nguồn gốc” tab or textboxes in “Cấu hình” tab.  Click “Gửi” button to finish.  **Preconditions:**   * User has logged in system as member role. * Product is not found when member search.   **Post Conditions:**   * **Success**: Recommended product’s detail was sent successfully. Show successful message. * **Fail:** Database connection is not available. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Member selected “Nguồn gốc” radio button.  [Alterative1] | Interface appears, include:   * “Email” textbox, min length: 0, max length: 100, regular expression: ^[a-zA-Z0-9.!#$%&'\*+/=?^\_`{|}~-]+@[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?(?:\.[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?)\*$, required. * “Tên laptop” textbox, min length: 6, max length: 30, required. * “Đường dẫn” textbox, min length: 6, max length: 300, regular expression: (http|ftp|https):\/\/[\w\-\_]+(\.[\w\-\_]+)+([\w\-\.,@?^=%&amp;:/~\+#]\*[\w\-\@?^=%&amp;/~\+#])?   , required.   * “Mô tả” textbox, min length: 0, max length: 200. * “Gửi” Button | | 2 | Member fills data to textboxes.  Member clicks “Gửi” Button. | Show success message: “Thao tác thành công!”  Return “Trang chủ” page.  [Exception 1,2,3,5] |   **Alternative Scenario:**  [Alterative1]   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Member selected “Cấu hình” radio button. | Interface appears, include:   * “Email” textbox, min length: 0, max length: 100, regular expression: ^[a-zA-Z0-9.!#$%&'\*+/=?^\_`{|}~-]+@[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?(?:\.[a-zA-Z0-9](?:[a-zA-Z0-9-]{0,61}[a-zA-Z0-9])?)\*$, required. * “Tên laptop” textbox, min length: 6, max length: 30, required. * “Hình ảnh” textbox, min length: 6, max length: 300, required. , regular expression: (http|ftp|https):\/\/[\w\-\_]+(\.[\w\-\_]+)+([\w\-\.,@?^=%&amp;:/~\+#]\*[\w\-\@?^=%&amp;/~\+#])? , required. * “Vi xử lý” textbox, min length: 3, max length: 30, required. * “Bộ nhớ” textbox: 3, max length: 30, required. * “Màn hình” textbox, min length: 3, max length: 30, required * “Ổ cứng” textbox, min length: 3, max length: 30, required * “Gửi” Button. | | 2 | Member fills data to text boxes.  Member clicks “Gửi” Button. | Show success message: “Thao tác thành công!”  Return “Trang chủ” page.  [Exception 1,2,3,4,5,6] |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Missing information. | Show error message: “Bạn đã điền thiếu thông tin vui lòng nhập đủ thông tin ở ô có dấu \* ” | | 2 | Invalid “Email”. | Show error message: “Email không hợp lệ. Vui lòng thử lại!” | | 3 | “Mô Tả” not in range [0, 200]. | Show error message: “Mô Tả không được quá 200 ký tự. Vui lòng thử lại!” | | 4 | TênLaptop/ Cpu/Ram/Display/  HDD is not in range [3, 30]. | Show error message: “Thông tin phải từ 3 tới 30 ký tự. Vui lòng thử lại!” | | 5 | Invalid “Đường dẫn”. | Show error message: “Đường dẫn không hợp lệ. Vui lòng thử lại!” | | 6 | Invalid “Hình ảnh”. | Show error message: “Đường dẫn hình ảnh không hợp lệ. Vui lòng thử lại!” |   **Relationships:** Search.  **Business Rules:**  System will check duplicate between recommended product’s detail in database by “Tên Laptop”  - If system detect duplicated product, system will count times for recommending the product.  + If the time of recommendation is greater than 5, the system will send the request to staff for parsing.  - Else recommendation will be saved recommended product into database | | | |

Table 20: <Member> Recommend

##### <Member> Rating

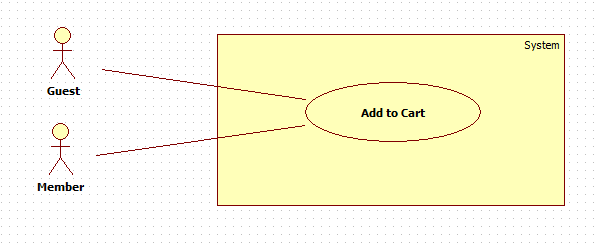


**Figure 31: <Member> Rating**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE - CPS0021** | | | |
| **Use Case No.** | CPS0021 | **Use Case Version** | 1.0 |
| **Use Case Name** | Rating | | |
| **Author** | Tran Tan Len | | |
| **Date** | 28/05/2014 | **Priority** | Normal |
| **Actor:**   * Member.   **Summary:**   * This use case allows member to rate the product.   **Goal:**   * Rating product.   **Triggers:**   * Member wants to rate the product in system. * For rating product, member must do the following steps:   + View product detail.   + Click rating icon.   **Preconditions:**   * User must log in the system with member role. * View product detail.   **Post Conditions:**   * **Success**: Rating information will be updated in database. * **Fail:** Database connection is not available. Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | From the “Trang chủ”page.  Member clicks “Tên” product or “Hình ảnh” product in list product to view product detail. | Navigate to “Chi Tiết” page which contains:   * Product detail, product weight. * Rating icon. | | 2 | Click “Rating” icon. | Show popup message: “Bạn có chắc chắn với kết quả đánh giá của mình?”   * “Xác Nhận” button. * “Hủy Bỏ” button.   [Exceptions1,2] | | 1 | Click “Xác Nhận” button.  [Alternative1] | New rating will be updated to the database. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click “Hủy Bỏ” button | Return to “Chi Tiết” page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Database connection is not available. | Show error message: “Không thể đánh giá sản phẩm! Vui lòng thử lại sau.” |   **Relationships:** N/A  **Business Rules:**  Member can rate only 1 time for a product. The Rating help system load bester rating product on home page. | | | |

Table 21: <Member> Rating

##### <Member> Add to Cart

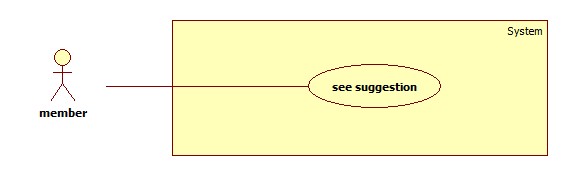


**Figure 32: <Member> Add to cart**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0022** | | | |
| **Use Case No.** | CPS0022 | **Use Case Version** | 1.0 |
| **Use Case Name** | Add to Cart | | |
| **Author** | Pham Hong Sang | | |
| **Date** | 28/05/2014 | **Priority** | High |
| **Actor:**   * Guest/Member.   **Summary:**   * This use case allows guest/member to add product to cart.   **Goal:**   * A product will be added to guest/member’s cart.   **Triggers:**   * Guest/Member can add product to cart after search product or add to cart from homepage. * Guest/Member clicks on cart icon button on each result row.   **Preconditions:**   * N/A   **Post Conditions:**   * **Success**: The product will be added to cart. * **Fail:**   + Session is time out.  + System will show message “Your session has expired. Please try again”. Redirect to homepage.  **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Click cart icon button on result row. | * Check for the existence of the cart object in session [Exception 1]. * Add clicked product to cart [Alternative 1]. * Change the number of product in cart and display it for user. [Exception 2]. |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | The product has existed in cart. | * Button “add to cart” will be hidden for preventing to add to cart again. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Session time out. | * Show pop-up which is included:   + Label:”Giỏ hàng của bạn đã hết phiên giao dịch.Mời bạn thử lại.”  + OK:button.[Exception 3]  + Cancel:button. [Exception 4] | | 2 | Cart is full of products | * Show error message:”Giỏ hàng của bạn chỉ chứa tối đa được 3 sản phẩm.” | | 3 | User clicks ”OK” button | * Create new cart object in session. * Add clicked product to cart. * Change the number of product in cart and display it for user. | | 4 | User clicks “Cancel” button. | * Do nothing. |   **Relationships:** N/A  **Business Rules:**   * Maximum size of cart is 3. * If session is out of time, it will show message for user. System will create a new session automatically when user clicks on “OK” button. * If cart only have 1 product, system will do nothing. System will progress if the size of cart is 2 or above. | | | |

Table 20: <Member> Add to Cart

##### <Member> See suggestion

****

**Figure 33: <Member> See suggestion**

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| --- | --- | --- | --- |
| **USE CASE – CPS0023** | | | |
| **Use Case No.** | CPS0023 | **Use Case Version** | 1.0 |
| **Use Case Name** | See suggestion | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Member.   **Summary:**   * This use case allows member to see suggestion when comparing products on website.   **Goal:**   * Member sees suggestion when comparing products in cart successfully.   **Triggers:**   * When cart has at least 2 products, member clicks “so sánh” button.   **Preconditions:**   * User must login with member role.   **Post Conditions:**   * **Success**:   **+** Show comparison table products.  **+** Show points of product.  **+** Show recommend as list of products.   * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | * Member adds 2 or 3 products to cart * Member clicks “So sánh” button.   [Alternative 1,2,3] | Navigate to “So sánh” page with contains:   * Comparison table with information:   + Product which is winner and which is (are) runner-up in cart.  + Show Point of products.  + Show recommend as list of products.  [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | * Cart has no product. * Member clicks “So sánh” button. | Show error message:” Phải có ít nhất 2 sản phẩm trong giỏ”. | | 2 | * Member adds 1 product to cart. * Member clicks “So sánh” button. | Show error message:” Phải có ít nhất 2 sản phẩm trong giỏ”. | | 3 | Session time out. | Show error message:”Vui lòng đăng nhập lại để được hỗ trợ nhiều hơn”.  Redirect to login page |     **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Cannot compare product due to database connection. | Show error message:”Thao tác thất bại, xin hãy thử lại”. |   **Relationships:** Add to cart  **Business Rules:**  Member adds 2 or 3 products to cart.  Member clicks “So sánh” button, “So sánh” page will show in 2 situations:   * Situation 1: Error message ”Phải có ít nhất 2 sản phẩm trong giỏ” * Situation 2:   + Show comparison table.  + Points of products.  + Show recommend as list of products that similar with products in member’s cart. | | | |

Table 21: <Member> See suggestion

##### <Authorized user> Log out

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Figure 34: < Authorized user > Logout

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0024** | | | |
| **Use Case No.** | CPS0024 | **Use Case Version** | 1.0 |
| **Use Case Name** | Logout | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Authorized user.   **Summary:**   * This use case allows Authorized user to log out of the system.   **Goal:**   * Authorized user logs out of the system. Authorized user’s current session is destroyed.   **Triggers:**   * Authorized user wants to log out. * Authorized user clicks “Đăng xuất” link.   **Preconditions:**   * Authorized user has logged in to the system.   **Post Conditions:**   * **Success**: Authorized user’s current session is destroyed. Redirect to homepage. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Authorized user clicks “Thoát” link. | Show message “Bạn thực sự muốn thoát”   * Xác nhận: button * Hủy: button | | 2 | Authorized user clicks “Xác nhận” button. [Alternative 1] | Destroy Authorized user’s session. Redirect to homepage. [Exception 1] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Authorized user clicks “Hủy” button. | Do nothing. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Fail to destroy Authorized user’s session | Redirect to error page. |   **Relationships:** N/a  **Business Rules:**   * Authorized user clicks “thoát” link, * Authorized user’s role will be changed to guest. | | | |

Table 24: <Authorized user> Logout

##### <Authorized user> Change Password

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**Figure 35: < Authorized user > Change Password**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0025** | | | |
| **Use Case No.** | CPS0025 | **Use Case Version** | 1.0 |
| **Use Case Name** | Change password | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Authorized user.   **Summary:**   * This use case allows Authorized user to change password.   **Goal:**   * Authorized user changes password successfully.   **Triggers:**   * Authorized user logins to website. * Authorized user clicks “Thay đổi mật khẩu” link.   **Preconditions:** Authorized user has register into the system.  **Post Conditions:**   * **Success:** New password has been updated into database. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Authorized user clicks “Thay đổi mật khẩu” link. | Show “Thay đổi mật khẩu ” page with includes:   * Mật khẩu cũ: textbox, password box, min length: 6, max length: 20, required. * Mật khẩu mới: textbox, password box, min length: 6, max length: 20, required. * Xác nhận mật khẩu mới: textbox, password box, min length: 6, max length: 20, required. * Thay đổi: button. * Xóa trắng: button. | |  | Authorized user clicks “Thay đổi” button [Alternative 1] | Show successful message and return to home page. [Exception 1,2, 3,4,5,6] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Authorized user clicks “Xóa trắng” button. | Clear all input fields. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of password is not in range. | Show error message: “Độ dài mật khẩu phải từ 6-20 ký tự!” | | 2 | “Mật khẩu cũ” is wrong. | Show error message:”Sai mật khẩu.” | | 3 | “Mật khẩu cũ” is a blank. | Show error message:”Vui lòng nhập mật khẩu” | | 4 | “Mật khẩu mới” is a blank. | Show error message:”Vui lòng nhập mật khẩu mới” | | 5 | “Xác nhận mật khẩu mới” is a blank. | Show error message:”Vui lòng nhập xác nhận mật khẩu mới” | | 6 | “Mật khẩu mới” and “Xác nhận mật khẩu mới” is not similar. | Show error message: “Mật khẩu mới và Xác nhận mật khẩu mới không trùng khớp”. |   **Relationships:** N/A  **Business Rules:**   * Authorized user click “Thay đổi” button * New password has been updated into database. | | | |

Table 25: <Authorized user> Change Password

#### <Guest> Overview Use Case

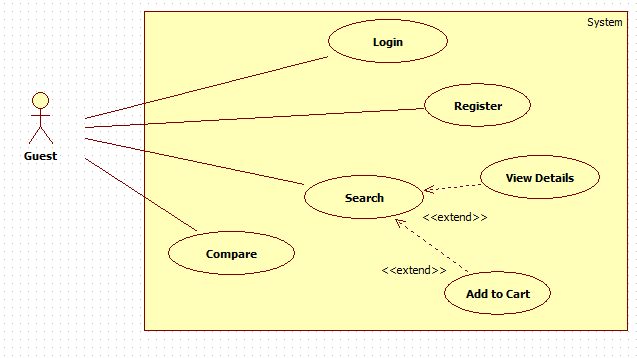


Figure 36: <Guest> Overview Use Case

##### <Guest> Register



Figure 37: <Guest> Register

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0026** | | | |
| **Use Case No.** | CPS0026 | **Use Case Version** | 1.0 |
| **Use Case Name** | Register | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Guest.   **Summary:**   * This use case allows guest to register.   **Goal:**   * User can register new account to become a member of the system.   **Triggers:**   * Guest wants to be a member of the system. * To register, click “Đăng ký” link in menu bar.   **Preconditions:** N/A.  **Post Conditions:**   * **Success:** New member account is created. * **Fail:** Show error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest clicks “Đăng ký” link. | System show a register form which includes:   * Username: textbox, min length: 6, max length: 30, required. * Password: textbox, password box, min length: 6, max length: 20, required. * Đăng ký: button. * Xóa trắng: button. | | 2 | Guess enters required information, then clicks “Đăng ký” button. [Alternative 1] | Create new member account. Show success message.  [Exception 1,2, 3] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Guest clicks “Xóa trắng” button. | Clear all input fields. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Length of username is not in range. | Show error message: “Độ dài username phải từ 6-30 ký tự!” | | 2 | Length of password is not in range. | Show error message: “Độ dài password phải từ 6-20 ký tự!” | | 3 | Username’s existed already. | Show error message: “Trùng tên đăng nhập! Vui lòng chọn tên khác!” |   **Relationships:** N/A  **Business Rules:**   * The role of new created account is “member”. | | | |

Table 26: <Guest> Register

##### <Guest> Login



Figure 38: <Guest> Login

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0027** | | | |
| **Use Case No.** | CPS0027 | **Use Case Version** | 1.0 |
| **Use Case Name** | Login | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Guest.   **Summary:**   * This use case allows guest to login to the system.   **Goal:**   * Allow authentication and authorization of the system.   **Triggers:**   * Guest want to login into system. * To login: Guests go to the login link, enter username and password, and click “Đăng nhập” button to login.   **Preconditions:**   * Database has a registered account.   **Post Conditions:**   * **Success:** Guest is authorized, redirect to corresponding page. * **Fail:** System will show error on current page.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest goes to login page. | System show a login form, includes:   * Username: textbox, min length: 6, max length: 30, required. * Password: textbox, password box, min length: 6, max length: 20, required. * Đăng nhập: button. * Hủy: button * Create new account. | | 2 | Guess enter username and password into textboxes.  Press “Đăng nhập” button.[Alternative 1] | * Show message successful * “Ghi nhớ tài khoản”: check box   [Exception 1,2,3,4] |   **Alternative Scenario:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | Press “Cancel” button. | Navigate to home page. |   **Exceptions:**   |  |  |  | | --- | --- | --- | | No | Actor Action | System Response | | 1 | “Tên tài khoản” is a blank | Show error message: “Vui lòng điền đủ username và password!” | | 2 | “Mật khẩu” is a blank | Show error message: “Vui lòng điền đủ username và password!” | | 3 | Username/Password not in range [5,30] | Show error message: “Thông tin không hợp lệ. Vui lòng thử lại!” | | 4 | Invalid “Username” and “Password” | Show error message: “Thông tin không hợp lệ. Vui lòng thử lại!” |   **Relationships:** N/A.  **Business Rules:**   * Each member, staff, admin has an account. * Only active account can log in. | | | |

Table 25: <Guest> Login

##### <Guest> View Detail

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**Figure 39: <Guest> View Detail**

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – CPS0028** | | | |
| **Use Case No.** | CPS0028 | **Use Case Version** | 1.0 |
| **Use Case Name** | View detail | | |
| **Author** | Ha Chi Danh | | |
| **Date** | 30/05/2014 | **Priority** | Normal |
| **Actor:**   * Guest.   **Summary:**   * This use case allows guest to search and view product information.   **Goal:**   * A page detail of products will be shown to guest.   **Triggers:**   * Guest inputs to a blank textbox then clicks “Tìm kiếm” button. * Guest inputs URL of product or serial number then they search all products with relative URL or serial number which they inputted. The searching results will show product detail.   **Preconditions:** N/A  **Post Conditions:**   * **Success**: Show search results as a page of product with URL or serial number that guest inputted * **Fail:** Show an error message.   **Main Success Scenario:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Guest inputs the product’s URL or serial number into textbox. | Show “Search” page with includes:   * Tìm bằng đường dẫn/ tìm bằng số seri: drop down list. * Search: textbox * Tìm kiếm: button | | 2 | Guest clicks “Tìm kiếm” button. | * System will show page detail product by product URL or serial number.[Exception1] |   **Alternative Scenario:** N/A  **Exceptions:**   |  |  |  | | --- | --- | --- | | Step | Actor Action | System Response | | 1 | Search not found | Redirect to Not found page.  Show message:”Vui lòng đăng nhập để được hỗ trợ nhiều hơn”. |   **Relationships:** Search  **Business Rules:**   * User search by URL or serial number of product * System will search all products in database. * If that product is existed, system will show detail page of that product. | | | |

Table 28: <Guest> View Detail

## Software System Attribute

### Usability

#### Graphic User Interface

* All the texts, labels and should be written in Vietnamese.

#### Usability

* Admin, staff should need less than one week of training to be productive with the system.
* Guest and member can use the system easily without training.

#### Installation

* The system must be easy to deploy. Customer can deploy successfully and learn to configure, maintain the system within one day of training.
* The mobile app must be easy to install. Compatible with almost Android Phone.
* The attached manual guide must be clear. User can read and do themselves without developer’s help.

### Reliability

* N/A

### Availability

* N/A

### Security

* Privacy: Each role of user has a specific permission to interact with system.
* System always checks authorization and authenticated before doing anything.
* Only admin can grant permission to staff.

### Maintainability

* N/A

### Portability

* N/A

### Performance

* N/A

## ERD

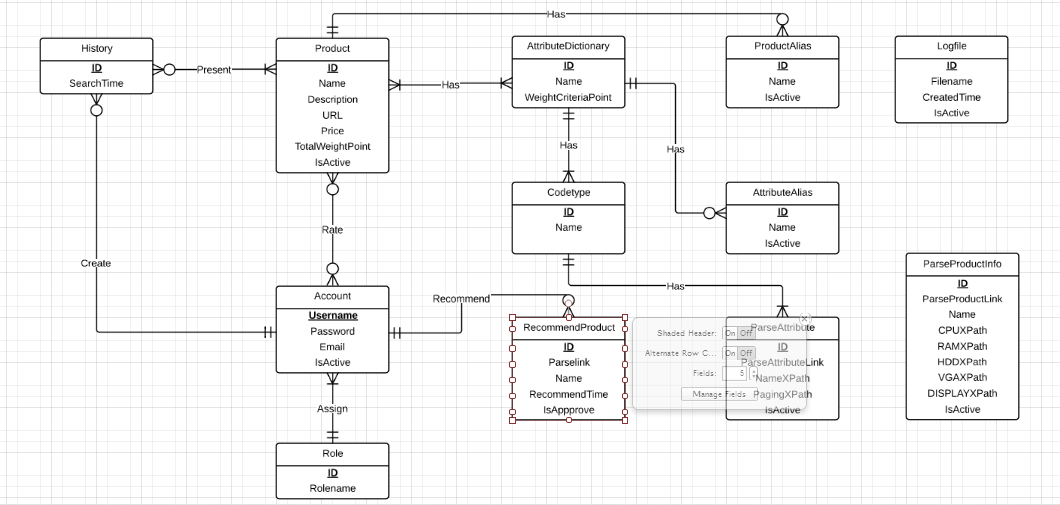


Figure 40: ERD - Conceptual Diagram