## <Guest/Member> Add to cart

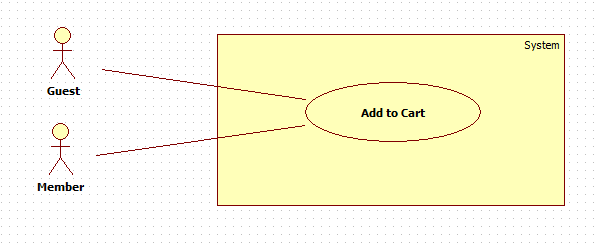


Figure 1: <User> Add to cart

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – 001** | | | |
| **Use Case No.** | 001 | **Use Case Version** | 2.0 |
| **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 1: <User> Add to cart

## 2. <Staff> Use case

### 2 .1 <Staff> Create parser

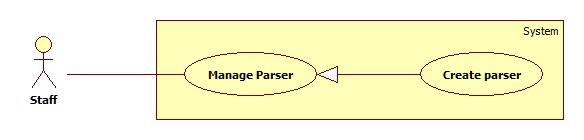


Figure 2: <Staff> Create Parser

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – 002** | | | |
| **Use Case No.** | 002 | **Use Case Version** | 2.0 |
| **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 2: <Staff> Create Parser

### <Staff> Update Parser

Use Case Diagram

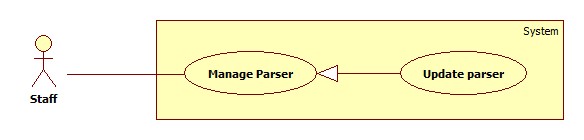


Figure 3: <Staff> Update Parser

Use Case Specification

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| --- | --- | --- | --- |
| **USE CASE – 003** | | | |
| **Use Case No.** | 003 | **Use Case Version** | 2.0 |
| **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 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. * There is at least 1 created parser in database. * Selected parser will be updated new information and insert into database. | | | |

Table 3: <Staff> Update Parser

### 2.3 <Staff> Deactivate Parser

User Case Diagram

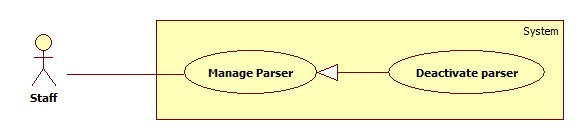


Figure 4: <Staff> Deactivate Parser

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – 005** | | | |
| **Use Case No.** | 004 | **Use Case Version** | 2.0 |
| **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 4: <Staff> Deactivate Parser

### 2.4 <Staff> Activate Parser

Use Case Diagram

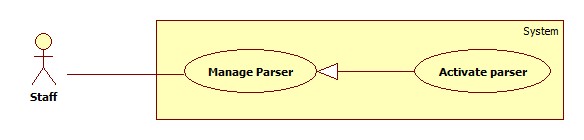


Figure 5: <Staff> Activate Parser

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – 005** | | | |
| **Use Case No.** | **005** | **Use Case Version** | 2.0 |
| **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 5: <Staff> Activate Parser

## 3. <Staff> Configure System

Use Case Diagram

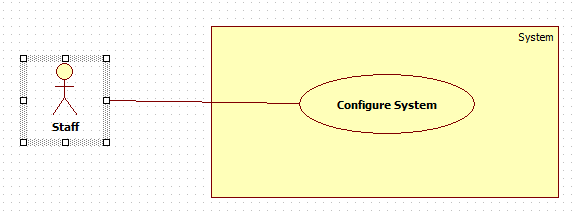


Figure 11: <Staff> Configure System

Use Case Specification

|  |  |  |  |
| --- | --- | --- | --- |
| **USE CASE – 006** | | | |
| **Use Case No.** | 006 | **Use Case Version** | 2.0 |
| **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 16: <Staff> Configure System