**Purchase Flow Management**.

**SECTION A: DESCRIPTION**

1. Objective – to manage and document the flow for purchasing of nonstock items like spare parts, consumables, non contractual services, office stationery, ….
2. Flow components
   1. Purchase requisition issuance
   2. Accounting check
   3. Management approval or reject
   4. Purchase order issuance
   5. Reception of goods and services.
3. Flow

* Initiator fills in purchase requisition form (purchase header and purchase lines) – status “in progress”
* Upgrade status to “issued” when finished. Email to initiator as information about the status and to accounting as notification with detail, call for action and link to the application.
* Accounting check if “budgeted” and input “budget line”. Upgrade status to “checked”. Email to initiator with status and email to management as notification with detail, call for action and link to the application.
* Management action: approve or reject the purchase requisition. Update status to approve/reject. Email to initiator with status, call to action and link to the application.
* Initiator: issue the purchase order save it and send it to supplier. Update status of to “PO sent”.
* Initiator: issue the reception of goods/services when are received. Update status to "received”.

1. Application menu:
   1. Login – access by user rights
   2. Main menu:
      1. **Purchase request section:**
         1. Purchase header
            * Create – purchase-header-form.html
            * Edit - purchase-header-form.html
            * List – purchase-headers.html
            * Display one – purchase-request-template.html – template for complete purchase request
            * Delete (only if status is in progress) – soft delete – to do
            * Send mail on at promote
            * Data validation
         2. Purchase lines.
            * Add – purchase-line-form.html – from purchase request template
            * Edit /Delete – from purchase-request-template.html
            * Display to value of each line – to create it in DB?
            * Data validation
         3. Reporting
            * Purchase request By Status – purchase-requests.html – created two lists: with “in progress” and with “issued”
            * Purchase request by supplier/by date/initiator – to be defined.
            * To define other reports
            * To create pagination and search for purchase requests
      2. **Accounting section:**
         1. Purchase requests list with status “issued” – accounting-purchase-requests-list.html
         2. Select purchase request to treat – accounting-purchase-request
         3. Set up display of purchase line value
         4. Edit /check each purchase line with –
            * Budgeted: yes/no - to modify the form to “yes/no” (for the moment is with “true/false”
            * Budget line by selection from a list
         5. To set up email when PR is promoted to management
      3. **Management Section:**
         1. Display Purchase request (purchase header) pending list (status “checked”) – management-purchase-requests-list.html
         2. Select purchase request to treat - button in the list of pct 1.
         3. Approve /Reject Purchase requisition – management-purchase-request.html
      4. **Purchase order**
         1. Purchase order issue
            * Save /Print PDF on local – purchase-order.html (for PO layout)
            * Sending to supplier
         2. Reporting
            * Purchase order list – purchase-orders.html
            * Purchase order by supplier/date – to be defined – maybe we can use file from line above
      5. **Reception**
         1. Reception form – PR update with reception data: qty, price, date
            * Reception-form.html
            * Print/save pdf
         2. Reporting
            * Reception list – receptions.html
            * One Reception– reception-detail.html
   3. **Admin dashboard** 
      1. Supplier Management
         1. Create - supplier-form.html
         2. List – suppliers.html
            * with options for edit/block/unblock.
            * Paginated with 10 suppliers/page
            * To add an option in the list to choose the number of suppliers to be shown in the page
         3. Display one supplier select by name – supplier-search.html
         4. VAT code check if exists in DB to prevent double registration
         5. Supplier code set to Integer and incremented with one and automatic filled for new supplier to assure continuity and unicity.
         6. Export of supplier list in excel/csv?
      2. Departments management
         1. Create – department-form.html
         2. List – departments.html
      3. User management
         1. Create – user-form.html
         2. List – users.html – with option for edit user and user details.
         3. User Details – user-details.html. With options for:
            * Edit user
            * Enable/disable
            * Reset password
            * Add/edit/delete authority
         4. Following user authorities are available:
            * USER – normal employee who can create PR/PO/Reception
            * ACCOUNTANT - accounting employee who can check PR
            * MANAGER – manager who will approve/reject PR
            * ADMIN – admin who manage master data.
            * Each user can have more than one authority
         5. A validity period for the password is set –a validity period of 1 month. - done
         6. Each user has the possibility to change his password on his own - done
         7. Admin does not set the password for user. Only can reset it and Upon creation the initial password is set. - done
         8. In case of password reset done by admin user should change password at first login. Reset is done by admin in case of user forgets its password.

Email sent to user when the password is reset– done

* + - 1. Email to user upon creation – with initial password and explanation that the password must be change at first login after. - – done
      2. Email to user when the authority is added or removed. – done
      3. Block the user in case of 3 unsuccessful attempts?
      4. To add paginate and search options for users list
      5. To add an option in the list to choose the number of users to be shown in the page
      6. Export of users list in excel/csv?
    1. Currencies Management
       1. Create – currency-form.html
       2. List – currencies.html – with options for edit
    2. Status management
       1. Create – status-form.html
       2. List – statuses.html – with options for edit
       3. Available statuses: in progress, issued, checked, approved, rejected, po issued, received.
    3. Budget line management
       1. Create – budget-line-form.html
       2. Update/Block - not need a separate HTML as done from pct 3
       3. List - budget-lines.html

**SECTION B: TEHNICAL DETAILS**

1. **Tech & Tools:** 
   1. Java Spring Boot/Thyme leaf (or Angular)/MySQL
   2. IntelliJ – Java Spring/Thyme leaf
   3. Workbench – MySQL
   4. VS Code Angular
2. **Database:** 
   1. **DB name:** purchases
   2. **Tables:** 
      1. **Admin section**
         1. suppliers
            * supplierId
            * supplierCode
            * supplierName
            * vatCode
            * address
            * city
            * county
            * country
            * email
            * contactPerson
            * isBlocked
         2. departments
            * departmentId
            * departmentCode
            * departmentName
            * departmentManager
            * email
         3. User management:
            * Authorities

authorityId

authority

username

userId

* + - * + Users

userId

email

firstName

lastName

password

enabled

username

* + - 1. currencies
         * currencyId
         * currency
         * fxRate
      2. statuses
         * statusId
         * status
      3. budgetLines
         * budgetLineId
         * budgetLine
    1. **Users side**
       1. purchaseHeaders
          - purchaseHeaderId
          - purchaseNumber
          - purchaseDate
          - receptionDate
          - purchaseFxRate
          - receptionFxRate
          - initiator (userul logat) (de adaugat)
       2. purchaseLines
          - purchaseLineId
          - itemDescription
          - unitMeasure
          - quantity
          - unitPrice
          - isBudget
          - receivedQuantity
          - receivedPrice

1. **Relations in database**
   1. supplier, department, user, status, currency – relation of OneToMany with purchaseHeader
   2. purchaseHeader -relation of OneToMany with purchaseLine
   3. budgetLine – relation of OneToMany with purchaseLine
2. Validation for fields.
   1. Suppliers
      1. VAT code - check registration with ANAF site if country is Romania. To check if a check can be done for EU suppliers.
      2. Code – length? ,unique? , only figures?
      3. Supplier Name length?, only letters and figures?
      4. Address, City, County length?, only letter, figures, spaces, dashes, underscores?
      5. Contact person length?, only letters and spaces?
      6. Email - email validation