# Electronic signing system (ESS)

ESS application consists of 2 parts - backend & frontend - which will have 1-on-1 bi-directional communication between them.

* **Backend** - admin panel (available to receptionists on workstation PCs), API & socket server. Hosted on a server in an internal network.
* **Frontend** - interactive screens which will change based on requests from the backend (used on tablet devices in front of receptionist PCs)

Workstation PCs can send a request to only a single tablet device and tablet devices can receive requests only from a single workstation PC.

## Backend

### Admin panel

* Authentication - login field using email & password
  + No registration, users are created by admin
* User management - table of system users
  + Option to create, edit & delete users
    - Name & surname (text)
    - E-mail (text)
    - UserID in the external system (text)  
      This will be used to match with the UserID received in the API signing request.
    - Access level (admin or user) (dropdown)  
      Admin has access to all sections, user has access to only these:
      * Singing requests
      * Signed documents
      * Tablet devices
* Document template management
  + Document templates - table of document templates
    - Option to view, create, edit & delete templates
      * Specify document name (text)
      * Select document header (dropdown)
      * Rich text editor for document content (WYSIWYG)
      * Specify placeholders in content which will be replaced in the template with data received from API (i.e. %FIRST\_NAME%, %LAST\_NAME%)
      * Specify how long the signed document should be valid for in days (number).  
        When a document has been signed, we add these days to the current date+time & save it in the database in UTC along with the signed document information. This is then provided in the API document status request as the **valid\_date** field.
      * Document content can optionally be in 3 languages - LV, RU & EN
      * Document can be assigned to multiple document groups
      * Document can have mandatory status which is required to be signed at all times
    - Option to filter document template list by their name or group
  + Document groups - table of document groups
    - Option to create, edit & delete document groups
      * Group name (text)
  + Document headers - table of header options used in document templates
    - Option to create, edit & delete headers
      * Image
      * Title (text)
      * Rich text editor for header content (WYSIWYG)
  + Unique documents - documents which have unique functionality
    - Client contact information renewal - when sent to tablet device, will show client current contact information (phone & email) with input fields allowing client to change them if necessary.
      * If a client updates their contact information on the tablet, it can then be seen as a signed document in the signed document list & a notification is sent to the user (which initiated this request) informing that user has updated their contact info.
      * Phone number is validated to be at least 8 numbers
      * Email is optional, but if entered, is validated as correct email address
* Singing requests - table showing signing requests received from API & their status
  + Shows information about:
    - Document name
    - Client full name & personal code
    - Status
      * New request
      * Sent to device
      * Canceled request
    - Request date & time
  + Option to:
    - Delete request
    - Send to tablet device - send request to tablet device for client to sign.  
      Request is sent to a tablet device which has been registered to the specific workstation PC in the “Tablet devices” section.  
      If no tablet has been assigned to this workstation, this option is not available.
    - Cancel request - resets tablet device back to stand-by mode & changes status to “Canceled request”. This request can still be re-sent to a tablet device.
  + Requests from this list disappear:
    - After requested document has been signed by client
    - Request has been deleted by user
    - After X hours with no action (can be set in settings)
  + Table will automatically refresh whenever status has changed for any of the signing requests
* Signed documents - table showing all signed documents (with pagination & per page limit)
  + Shows information about:
    - Document name
    - Client full name & personal code
    - Signature date & time
    - User who requested this document to be signed
  + Option to:
    - Download signed document as PDF (PDF contains the document content with the clients signature at the bottom)
    - Filter the list by document name or clients personal code
  + Signed documents can only be removed by admin user or automatically if setting “days to keep signed documents” has been set
* Tablet devices
  + **Devices** - table showing all tablet devices registered with the backend
    - Shows information about:
      * Tablet name (this name is set on tablet device during the first time setup)
      * Tablet group
      * Status:
        + Standby (whenevery tablet is waiting for a request)
        + Processing request (whenever tablet receives a request from backend)
    - Option to either:
      * Assign tablet device to this workstation (will also remove any other assigned tablet, if there is one)
      * Or remove assigned tablet from this workstation (if tablet has been assigned)
    - Only a single tablet device can be assigned to a single workstation at any given time
    - Option to filter tablet devices by tablet group
    - Option to cancel any sent request to tablet which would return it to standby mode (force standby mode)
  + **Groups** - table showing tablet groups
    - Option to create, edit, delete groups
      * Group name (text)
      * Option to assign multiple tablet devices to a group
      * Specify working days & hours during which the tablets in this group should be off (would show black screen during off hours).  
        Different days can have different working hours (or none at all, like Saturday & Sunday).  
        During working hours, when the tablet is in standby mode and waiting for requests, it will show rotating banner images.
* Banner management - table showing banner images which will rotate on the tablet devices when in standby mode during working hours
  + Option to create, edit, disable/enable & delete an image
    - File type - jpeg, jpg, png or gif
  + All enabled images rotate on all tablet devices every 30 seconds
* Notifications - table showing all notifications received by the user
  + Shows information about:
    - Notification text
    - Date & time of the notification
  + When a client signs a document on the tablet, a notification is sent to the user (which initially sent this request to the tablet device) informing that client has signed the document.
  + When a new notification is received, it is shortly shown in the top right side of the screen (regardless of the section) with the option to close it or it automatically closes after 30 seconds.
* Settings
  + Hours to keep the signature requests (if not set, signature requests will not be automatically removed)
  + Days to keep the signed documents (if not set, signed documents will not be automatically removed)

### API

Used by 3rd party system (i.e. Smart Medical) to send signing requests & receive signed PDF documents.

API provides functionality for:

* Authentication using email & password (user must be added in backend)
* Get document template list
* Request document for signing  
  If request also includes UserID from the external system and:  
  - this UserID is matched with a user in this system (this ID is manually specified in user)  
  - user is currently logged in  
  - there is a tablet attached to the current workstation where the user is logged in  
  We should automatically (once we receive this request through API) send this signing request to the tablet device which is attached to that specific workstation.
* Get signed PDF document (either as a link or base64 encoded)
* Remove signing request or signed document
* Get signing request status

## Frontend

### First time setup for each tablet

1. Open register link on tablet device
2. Input tablet device name
3. After submit the tablet will be registered and visible in backend section “Tablet devices” & will then go into standby mode

### Screens

* Standby mode
  + During working hours - rotating image screen (images added in backend will rotate every 30 seconds)
  + During off hours - black screen
* Document signing screen - shows document header, content & field for client signature at the bottom with buttons “submit” (user must leave a signature before they can submit) & “cancel” (this will cancel the signing request and tablet will return to standby mode)
* Contact information renewal screen - shows client current phone number & email address with 2 input fields where they can change this information if necessary.  
  With buttons - “submit” (which will create a new document with the current client contact information) and “cancel” (will cancel request & return tablet to standby mode).

### Tablet will be able to handle errors like

* Lost connection to backend
* No server response
* Reconnect attempts