# eService Datagrid Usability Project Scope Statement

## Objective

Create Service Ticket pricing items rapid editing page to improve field data entry efficiency.

## Architecture Consideration

eService application was started to build in 2005. It was built based on Windows Form technology which is two generation old. Microsoft stopped Window Forms mainstream support in 2011. The new technologies support better modern development and can help delivering better user experience.

The new pricing editing is required to build in the form of web application. The new application should maintain the same local database with existing eService application. The data integrity is the key of success.

The architecture design should foresee the future functional requirements implementation. A stable and robust local server architecture needs to be built up in multiple evolutionary stages.

To save development effort and assure the quality of work, third party user control is considered to be introduced in the web application. For the time being, third party control product selection may not be best option, architecture design should consider the mechanism for easy control swapping.

## Technology

.Net Core V1.1, .Net Framework 4.5.2, Asp .Net Core, Entity Framework Core (If applicable)

Syncfusion Asp .Net Core Control Library (Can be changed if there is another product meets architecture consideration better)

## Functional Requirements

1. Remove “Add Service Ticket” buttons

Currently when a new job package is created on local, in the data grid, both Service Ticket and Service Report status are “empty”. Eservice requires user to add Service Ticket and Service Report by clicking corresponding button explicitly. This feature was designed for multiple service line job before. This is not required any more. By removing these two buttons, it will help streamline the operation more smoothly.

After the two buttons are removed, the behavior should be as following:

1. Field Supervisor clicks “New” button to create Job Package, enters required data and click “Finish” button.
2. New job will show up in data grid. Job Status , Service Ticket Status Status is “In Progress”.
3. Double-click the newly created job in data grid, Job, Service Ticket shows up in the tree view.
4. “Add Service Report“ keep original functionality.

Technical Hints: When job package is created, both service ticket and service report are created at backend. EService hides them by status.

1. Add “Eservice Express” button

Add a new “Eservice Express” button on left side of “Job Packages From Local” page.

When a job package is highlighted, the button is enabled when the website service is available and the job package is not in the sending status; otherwise the button is disabled.

click “Eservice Express” button, a web page will pop up to show this job editing page in Eservice Express website. While the editing page is open, “Eservice Express” button is disabled.

When job editing page is closed. “Eservice Express” button is enabled in eService Win Form application.

Technical Hint: Enabling/Disabling button is cross-thread operation. The feasibility is to be determined.

1. Eservice Express local website

Eservice Express local website is a self-hosted website running on field computer, it mirrors a subset of eService Win Form application functionalities.

The website maintains same data source with eService application. The lock of data operation needs to be implemented to ensure data integrity.

Technical Hints:

1. This local website is only for installation on field computer, local data folder should be same for different log in user. The absolute path needs to be used.
2. The same UI will be used for manager approval, that will be on server function, so the UI should be considered to be reusable.
3. Local job version needs to be added to implement proper lock mechanism to assure local data integrity.
4. Pricing Items editing page

Within Eservice Express local website, implement one web page with contains an inline editable datagrid for editing eligible pricing items in Service Ticket. The page needs to take in Job Package Job Number and Unique Id as parameter.

In the Pricing Item editing page, only modification of “Adjusted Quantity” column is allowed.

After the adjusted quantities are modified, click “Save” button in web page, the changes will be saved in Service Ticket. Click “Cancel” button in web page, all changes will be dropped

In Adjusted Quantity field, on numbers and decimal point are allowed, and two decimal places are allowed.

After the updated data are submitted, pricing items recalculation is enforced at backend.

## Non-Functional Requirements

1. Lightweight website

Eservice Express local website is designed to be hosted on a regular computer to provide web accesses in box and potentially to other devices in same local network. Local computer resource is limited. Website must be designed in lightweight way to avoid resources hogging.

1. Deployment method

The website application should be installed on computer basis as a Windows Service. It must be an installation which local administrator permission is needed. The deployment package should be packed up as MSI installation file, include unload old version and install new version script.

## Acceptance Criteria

1. Eservice Express Installation
   1. Eservice Express can be installed the properly.
   2. Windows Service is started automatically.
   3. Web pages can be accessed properly by using URL.
2. Eservice Win Form Application
   1. Existing functionalities are not changed.
   2. “Eservice Express” button
      1. Button is disabled when Eservice Express is not installed.
      2. Button is disabled when Eservice Express service is stopped.
      3. Button is disabled when Eservice Express service is running, and
         1. Selected Job Package is in “Routing” status
         2. Selected Job Package is in “Transmitting” status
         3. Selected Job Package is in “Transmitted” status
         4. Pricing editing page is open for editing.
      4. Button is enabled when Eservice Express is running, and
         1. Selected Job Package is in “In Progress” status
         2. Selected Job Package is in “Ready” status
   3. When “Eservice Express” button is enabled, click the button
      1. Pricing Editing Page is opened in Chrome browser.
         1. Information in the header portion is same as selected Job Package.
         2. Pricing items in data grid are only editable items in selected Job Package and values are correct.
         3. Only “Adj. Quantity” column is editable, other columns are ready-only.
         4. “Save” button is disabled when no changes made in the grid.
         5. “Save” button is enabled when any changes made in the grid.
3. Eservice Express Application
   1. Open Pricing Page in Chrome browser from eService Application by clicking “Eservice Express” button or from URL with certain job package Job Number and UID.
      1. If the selected job package is not opened in eService, Eservice Express web page are opened and shows service ticket pricing lines correct.
      2. If the selected job package is opened in eService, pops up message box “Job Package 99999 is opened in eService Application, please close it in eService application and reload this web page.”
         1. Click “OK” button, web page is closed.
   2. Update Adjusted Quantity in Pricing Page
      1. When entering data into data cell in “Adj Quantity” column
         1. Only digits and decimal point is allowed.
         2. Entering Tab key, cursor is moved to next editable cell. If current cell is the last editable cell, cursor is moved to “Update” button.
      2. When clicking “Save” button
         1. Confirmation Alert box pops up.
         2. Click “OK”, check editing data version against local job package version in local database.
   3. If the data versions are same, increase job package version by one and save u
      1. All editable cells show latest updated values as loaded status, “Save” and “Cancel” buttons are disabled.
      2. Open the selected Job Package in Win Form application, the changed value shows in Service Ticket correctly.
   4. If the data versions are not same. Message box pops up “Job 999999 is opened in eService Application while editing here, please close it in eService application and reload this web page.”
      1. Click “OK” button, web page is closed.
         1. Click “Cancel”, Web page stays as editing status.
      2. When clicking “Cancel” button
         1. All editable cells clear all updated values and show original values as loaded status, “Save” and “Cancel” buttons are disabled.

## Technical Specification.

Computer monitor resolution: 1024 X 768

Web Page working area maximum width: 1007 pixels

## UI Mockup

