

# How DSS designed a SEA Air Control Tower Web Application



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BPO Team wanted to migrate their old age desktop application to web application, so that application will be accessible and portable. Also, they wanted changes in their process and needed some advanced features which was not present in current old age desktop application. Further BPO team wanted to implement user management along with module wise role rights.

## Summary

DSS BPO Team were using application for their back office work. This application was developed in desktop using visual basic language. Desktop application with visual basic is an old technology with barely any support for it. There was problem in development due to the lack of resources and even new cutting age technology was not easy to go with this application. Hence to overcome all these shortcomings, it was decided that web application should be developed with the latest technologies like Microsoft ASP.NET Core, Devexpress UI library.

HTL IT-Security team flagged serious security risks concerning the existing machine used to print shipment document uploaded via a BPO desktop application in DSS. So client from HTL requested DSS to share the zip file including (xml and pdf) from BPO web application to SFTP Folder on new HTL server.

Tracking of critical containers are easy now as they are highlighted in red color. Apart from these there were some functional improvements and new features which were required.

## Challenges

Migration from desktop application to web application along with improvements and new features.

- Moving from existing developed functionalities in desktop application to web application along with new changes was a big task. The way manipulation of large scale data was done in desktop application was done differently in web application, so there were changes in designs. Along with using the latest web technology we had to implement all these changes and new features
- To ensure clients document are securely uploaded in zip file to Online BPO portal
- Scheduling attachment and upload process automatically to reduce user's efforts
- Implementation of User management and role rights from scratch.

## Solutions

- Used latest technology like ASP.Net Core and for better look & feel we used Devexpress UI library
- We have redesigned the modules for new requirements and improvements for the existing process
- For uploading the documents, all users required RDP license which were quite expensive, so now through web application zip files are uploaded to Online BPO Portal and from there to client's SFTP folder on new HTL server
- In Desktop application, Admin had to manually filter the data and check the details of critical containers which will arrive on next 20 days. To reduce manual efforts, we have highlighted critical containers in red in the application, making it easy for user to identify
- Additionally, BPO Staff maintained Excel sheets for tracking documents received and assignments to the team. In web application all the above functions are combined into a single online system and also have the system cater to HTL order & Control tower tracking
- In desktop application all users were able to view all the modules irrespective of whether those modules are related to the users or not. Hence we implemented user management along with role rights, so that logged in user can access only those modules for which he/she has rights
- Implemented BL level merging to PDF and uploading the same

- BPO team wanted the functionality to upload the revised documents received from the clients which was not present in old application
- In desktop application, only manual attachment and uploading of documents were present. This manual process was slow and time consuming for users so, in new web application, auto attachment and auto upload through MSSQL server schedulers was implemented for saving user's time
- Earlier, report generation was a tedious task because data was collected, sorted and filtered manually in excel. The new web application can do the same process in few clicks

## Benefits

- Modifications and implementing new features were difficult in desktop application but in web application modifications are possible and it is compliant for future developments also
- Attachment and uploading is more secured now
- This new web application is portable, flexible and can be accessible across the world
- The application is more secure, avoids direct access of the modules to the user unless one have assigned role
- Lot of manual checking and tracking is reduced
- Application is user friendly
- Generating reports has become simpler now

## Technologies and Tools used

- Asp.net core 3.1 web application
- .Net framework 4.7.2
- DevExpress UI library 20.1.3
- MSSQL server - RDBMS
- FTP
- Web Service

## About DIRECTION

We are a software services firm, specializing in developing & implementing Internet strategies for businesses & providing high-end software development services including Custom Programming & Offshore Development.

With 17,000 sq. ft. of space in a modern building in central Mumbai the hub of all business activities in Mumbai, Direction is fully equipped with state-of-the-art infrastructure and networked with redundant 6 MBPS dedicated internet access from different providers.

Our vision is to be a trusted IT partner, leveraging our knowledge of tools and technologies to provide simple, integrated and innovative solutions that result in maximum customer satisfaction.

