Hutchison Ajman International Terminal (HAJT)

**New Website Project**



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**Preface**

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# **Purpose**

The purpose of this document is to provide technical requirements of the new HAJT website. This document will cover the functional, non-functional and technical requirements.

# **Definition, Acronyms and Terminology**

|  |  |
| --- | --- |
| **Item** | **Description/Expansion** |
| HAJT | Hutchison Ajman International Terminal |

Table 1 Definition, Acronyms and Terminology

# **Scope**

**In scope**

The scope of this website project is to create a website using the latest technologies and trends design to represent Hutchison-Ajman international terminal company Pvt. Ltd. Aims and objective. This website will provide HAJT user with an online presence and provide current and prospective customer with vital information about HAJT business operations and services.

The new HAJT website shall comprise of following feature

1. New, advance and interactive design
2. Website should provide more information about HAJT business, products and services.
3. User should be able to perform business activities ex. E-Services, E-Customs etc.
4. Meet design guidelines of HPH (Parent) website.

# **Functional Requirements**

1. The following are some of the key requirements for the HAJT website theme and look & feel:
   * The website shall have Common color schemes and fonts utilized in web pages.
   * The website shall have Site layout with effective navigation.
   * The website shall have Graphical images and logos following the branding directions and guidelines.
   * The website shall have Redirection mechanisms between sites and returning to previous pages.
2. The website must support screen resolutions (800\*600, 1024\*768 and 1280\*1024) and the latest two versions of most common Internet browsers. And compatible with latest version of mobile devices.
3. The website content shall be provided in Arabic, Chinese and English language across different channels. Ensuring flexibility to use any language effectively.
4. The website shall be developed in Arabic, Chinese and English languages.
5. The website shall enable users to access published information and content about HAJT nature of business, services and their procedures.
6. The website shall provide link to group website (HPH), external ministries and internal HAJT services ex. E-Service, E-customs etc.
7. The website should consist of 6-7 web pages and it should be scalable enough to meet future requirement(s)
8. The website should display complete HAJT contact details.
9. In addition, the HAJT website should provide users with a number of dynamically generated updates, such as:
   * The website shall provide updates on List of new added services, Press release and announcements and affiliate organizations (if any) and their website links.
10. The website should provide a Search Engine:
    * The website should provide users with basic and advanced search capabilities to help users to find specific information.
    * The users should be able to conduct full text search on portal content in Arabic, Chinese and English.
    * The search engine will enable users to search for any word or phrase as part of the content in the site.
    * The users should also be able to retrieve content based on the relevance to their search result.
11. The website should display press release, news, circulars, images, videos/audio streaming etc. with Content Management System integration for publish, edit, delete etc. purpose.
12. The website should provide container tracking facilities, with following functionalities:
    * The website should provide advance and normal search function for container tracking.
    * The website should display proper validation and warning messages (if applicable) to the user.
    * The website should provide read only information.
13. The website should provide function to request for berthing for vessel with following functionalities:
    * The website should provide feature to fill berthing request form with features to save and edit berthing request if required.
    * The website should provide function to submit berthing request with required documents.
    * The website should notify users upon successful submission.
    * The website should provide approval hierarchy workflow.
    * The website should notify users upon approval or reject and steps to follow post rejection.
    * The website should allow user to download approved berthing request.
    * The website should handle all securities related issues.
14. The website should provide function to request for gate pass with following functionalities:
    * The website should provide feature to fill gate pass request form with features save and edit gate pass request if required.
    * The website should provide function to submit gate pass request with required documents.
    * The website should notify users upon successful submission.
    * The website should provide approval hierarchy workflow.
    * The website should notify users upon approval or reject and steps to follow post rejection.
    * The website should allow users to download approved gate pass request.
    * The website should handle all securities related issues.
15. The website should provide function to download following form and displays list of required documents for each form(s):
    * Request letter for Hot Work Permit.
    * Request letter for repairs work (Cold work).
    * Request letter for Diving permission.
    * Request letter for Sanitation certificate.
16. The website should provide information about HAJT work culture with following functionalities:
    * The website should allow user to fill job application form, attach resume and submit the job application request to HAJT.
    * The system should display successful submission message to users.
    * The system should send auto-generated email(s) to applicant upon receiving job application.
    * The system should handle all security related issues.
17. The website should provide facilities for e-invoicing, the functionality should provide following functions:
    * The website should provide functionality to send E-invoice to users.
    * The users should be able to download E-invoices in PDF format.
18. The website should provide function to download or request complete pricing list i.e. Tariff, Customs duties, other charges and service standards.
19. The website content should be created, reviewed, published, and managed by web multi-language Content Management System (CMS) using well-defined content authoring and publication process, in addition CMS should follow following requirements:
    * The CMS should support content contributors to be able to publish the full website upon demand.
    * The CMS should support workflow.
    * The CMS should support the association of all page-level content to a workflow, for the copyeditor to review before publication.
    * The CMS should support an authorized user to be able to create new workflows, and modify existing workflows in a graphical user interface.
    * The CMS should support automatic backup daily.
    * The CMS should support an in-house administrator to be able to add and delete users and modify their permissions in the CMS, and reset users’ passwords, and do it all through a graphical user interface.
    * The CMS should support the creation and modification of user roles, content and approval permissions.
    * The CMS should provide features to be easy to implement archival/retrieval of content.
    * The CMS should ensure that all content updates and changes be reflected over the various delivery channels with a well-defined process.
    * The CMS should support the generation, recording, printing and display of report for internal users.
    * The CMS should support the printing of the reports, and the export of the report data items into a \*.csv format file.
    * The CMS should support multi-lingual capabilities.
    * The CMS should support the publication of both static and dynamic content.
    * The CMS should be easy-to-use and provide an intuitive graphical user interface.
    * The resulting website should be available to the public 99.999% of the time (not including scheduled maintenance windows).

# **Non-Functional Requirements**

## **Generic Requirements**

* The system should be designed in manner that the operational data should never be lost unless there is a manual intervention/hardware failure.
* The system should run on the latest versions of all browsers and mobile application.
* The system should be designed to have minimum satisfactory performance even in low-bandwidth connectivity.
* The system should maintain a database of frequently asked questions (FAQ).
* The system should provide data dictionary for mandatory fields.
* The system should follow website development guidelines and standard guidelines too.
* The system should support multiple GUI with mapping method.
* Application code should not contain invalid references to network resources (Pathnames, URLs etc.).
* The system should not display the entire path of URL in browser based applications. It should be managed through app server and web servers.

## **Usability and Humanity Requirements**

* The HAJT logo should be displayed in all pages. The system should be attractive and the design and the colour should make users feel comfortable while using the system.
* The system should also consider people with common disabilities and should provide such functionalities that make possible for such people to easily use the website.
* The system will employ a single set of user interface to provide a familiar and standard look and feel for the application.

## **Performance Requirements**

* The system should be able to manage all the load of incoming information from the database and the information provided in the system by the users.
* Database architecture must be designed to be highly resilient based on multiple instances / multiple physical servers.

## **Operational and Environmental Requirements**

* The system should be sufficient to handle existing registry database and projected growth; DNS queries including peak periods and projected growth; DDoS attacks, viruses, worms and spam; and restart capabilities.
* The software should support either external load balancing or implement load balancing in the software such that n nodes of any module can be implemented in a load balancing or failover configuration, as required to allow different platform configuration requirements and scaling.

## **Security Requirements**

The system should comply with following access requirements:

* All data communications are encrypted with 128bits at minimum
* System should use secure sockets in all transactions that include any confidential customer information.
* Back-end databases should be encrypted.
* The system will develop a security system that will reduce to the minimum the possibility of corruption from systems and/or humans.

# **Architect Requirements**

## **Technical Specifications**

The HAJT website will be constructed on ASP.NET three tier architecture. This architecture is recommended because ASP.NET architect can accommodate according to future requirements, whether it is to increase application performance, scalability, flexibility, and/or code reuse.

* The presentation layer manages the user interface and related presentation code.
* The business layer maintains business rules and logic.
* The data layer manages the data storage and retrieval.

The presentation Layer

Presentation layer provides the interface to the users of website or application. It contains pages like .aspx or Windows forms where data is presented to the user or user enters the information. This layer communicates with business layer. In ASP.NET the code behind file and HTML file are separate file. The HTML file defines the look and layout of the web form and the code behind file contains the presentation logic.

The business Layer

Business layer or Application layer acts between Application layer and Data Access Layer. This layer contains our logic, validating the data and other functions. In this layer programmer access the data access layer functionality. In business layer programmers only access the function and pass the parameter that is provided by the end user.

The data Layer

All the code related to database is written in data layer. It contains methods to connect with database. It also contains the methods to perform insert, update, delete, select data according to the SQL query.

## **Generic Architect Requirements**

* The system should facilitate centralized deployment of the application.
* The system architecture should allow infrastructure simplicity and standardization.
* The system should provide application architectures that are highly granular and loosely coupled.
* The system should ensure data safety and integrity in the event of communication channels operation failures.
* The system should provide and support multi-tier authentication where required.
* The system should support source code re-usage and/or integration with any other module(s).
* Application should use secure network.
* The system should provide standard security protocol.
* The system should provide security for SQL injections and others as well.
* The system should adopt standardized formats and common metadata elements.
* Data Base requirements:
  + Defined scheduling frequency
  + Disaster recovery at Centre level
  + Data encryption
  + Backup and restoration
  + Defined data archival policy

## **Development Environment Tools & Technologies**

A well-planned and executed development environment should be implement for HAJT website.

### **Website Infrastructure**

* Databases: TBD
* Programing languages and frameworks: TBD
* Web and application servers: TBD
* Collaboration and website technologies: TBD
* Business Intelligence & Reporting: TBD
* Office tools: TBD
* Operating systems: TBD
* Back office tools: TBD
* Content and Document Management Systems: TBD

### **Data Dictionary**

The data dictionary for the new website will be documented. Dictionary and glossaries will need to be developed for all aspects of the system.

# **Testing Requirements**

The system deliverable shall comply with following test practice.

1. Function-Based Tests
   * Test plan
   * Test cases
   * Defect list
   * Test Evidence
   * Test results (Pass and Fail scenarios)
2. User Interface Tests if required
3. Security Tests
   * Security test plan
   * Security test result
4. Performance Tests (Response)
   * Performance test plan
   * Performance test result
5. Stress Tests (breaking point: memory, resources)

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