Travel Desk Portal

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1. Abstract

This document outlines the requirements and specifications for building a web-based Travel Desk platform for ABC, a global IT services provider. ABC aims to enhance its operational efficiency by automating the travel request and management process, which is currently handled manually via emails. The Travel Desk platform will provide a centralized, user-friendly interface for employees to submit, track, and manage their travel requests, and for managers and travel admins to review, approve, and oversee these requests.

Key Objectives:

- **Automate Travel Management**: Shift from a manual, email-based system to an automated, web-based platform to improve accuracy, speed, and traceability.

- **Enhance User Experience**: Develop an intuitive interface that caters to the needs of different user roles including employees, managers, admins, and HR travel admins.

- **Improve Data Security**: Implement robust authentication and authorization mechanisms to ensure secure handling of sensitive travel data.

- **Provide Real-Time Tracking**: Enable employees and managers to track the status of travel requests in real-time, ensuring transparency and accountability.

- **Ensure Scalability and Flexibility**: Use modern technologies and design principles to create a scalable and flexible platform that can evolve with ABC's growing needs.

4. Project Detail & Description

4.1 Introduction

ABC is a global IT services provider renowned for enhancing customer value and maintaining a competitive edge by optimizing information access, automating business processes, and facilitating effective collaboration among its teams. The company is undertaking the development of an internal web-based Travel Desk platform to streamline and modernize the travel management process for its employees. This platform aims to replace the outdated manual system that relies on email-based communication, providing a more efficient and user-friendly experience.

The new Travel Desk platform will integrate seamlessly with existing systems and offer a centralized solution for managing travel requests, approvals, and tracking. By leveraging advanced web technologies, the platform will ensure that employees have real-time visibility into their travel status, significantly improving the overall efficiency of travel management.

4.2 Purpose

The primary goal of this document is to define the requirements for the development of a web-based Travel Desk portal designed specifically for ABC's employees. This platform will facilitate the following objectives:

1. Automate Travel Requests: Replace the manual process of handling travel requests through emails with a digital system that allows employees to submit, track, and manage their travel requests online.

2. Enhance Tracking and Visibility: Provide employees and managers with a centralized view of travel requests, approvals, and status updates. This will enable better tracking of travel plans and ensure timely approvals.

3. Improve Efficiency: Streamline the travel management process by automating approval workflows, notifications, and document handling, thereby reducing administrative overhead and minimizing delays.

4. Ensure Compliance: Implement features to ensure compliance with internal travel policies and procedures, including document uploads and approval hierarchies.

5. User-Friendly Interface: Offer an intuitive and accessible interface that simplifies the process of creating, reviewing, and managing travel requests for users at all levels.

4.3 Scope of Work

The scope of work for the Travel Desk platform includes:

1. Requirements Gathering: Detailed collection and analysis of business requirements from various stakeholders, including employees, managers, and HR Travel Admins.

2. Use Case Development: Definition and documentation of detailed use cases that describe the interactions between users and the system, including:

   o Employee: How employees will create, submit, and track their travel requests.

   o Manager: How managers will review, approve, or reject travel requests.

   o HR Travel Admin: How HR Travel Admins will handle travel arrangements, reassess requests, and manage the overall process.

3. System Design: Design of the system architecture, including both frontend and backend components, ensuring integration with existing systems and adherence to technical standards.

4. Implementation:

   o Frontend Development: Building the user interface using Angular, ensuring responsiveness and usability.

- Backend Development: Developing the server-side logic using ASP.NET Core, including API endpoints for travel request management and integration with SQL Server for data storage.

- Authentication: Implementing JWT-based authentication to secure the platform.

5. Testing:

- Unit Testing: Conducting unit tests for both frontend and backend components to ensure functionality and stability.

- End-to-End Testing: Performing end-to-end tests to validate the entire workflow from request creation to approval.

6. Deployment: Deploying the application in a secure and scalable environment using Docker for containerization and Gitlab for version control.

7. Documentation:

- Software Requirement Specification (SRS): Comprehensive documentation outlining system requirements, use cases, and technical specifications.

- API Documentation: Providing detailed API documentation using Swagger for easy integration and reference.

8. Training and Support: Offering training sessions for users to familiarize them with the new system and providing ongoing support to address any issues or questions.

Technology Stack:

- **Frontend**: Angular

- **Backend**: ASP.NET Core (with .NET Core SDK)

- **Database**: SQL Server

- **Documentation**: Swagger for documenting REST APIs

- **Authentication**: JWT Authentication

- **Testing**: Karma, Jasmine for frontend; NUnit for backend

- **Version Control**: Gitlab

- **Containerization**: Docker

Deliverables:

- **Software Requirement Specification (SRS)**: Detailed documentation capturing all functional and non-functional requirements.

- **Workflow Diagrams**: Visual representations of the processes involved in travel request management.

- **User Roles and Characteristics**: Descriptions of the different user roles and their respective permissions and functionalities.

- **Functional Requirements**: Comprehensive use cases outlining the interactions between users and the system.

- **Non-Functional Requirements**: Specifications related to performance, usability, supportability, accessibility, and design considerations.

- **Business Rules**: Guidelines and policies governing the operation of the Travel Desk platform

Benefits:

- **Operational Efficiency**: Streamlined processes reduce manual effort and increase accuracy.

- **User Satisfaction**: A user-friendly interface enhances the experience for all stakeholders.

- **Data Security**: Secure authentication mechanisms protect sensitive information.

- **Scalability**: Modern technology stack ensures the platform can grow with the organization.

- **Transparency**: Real-time tracking and clear workflows enhance accountability and communication.

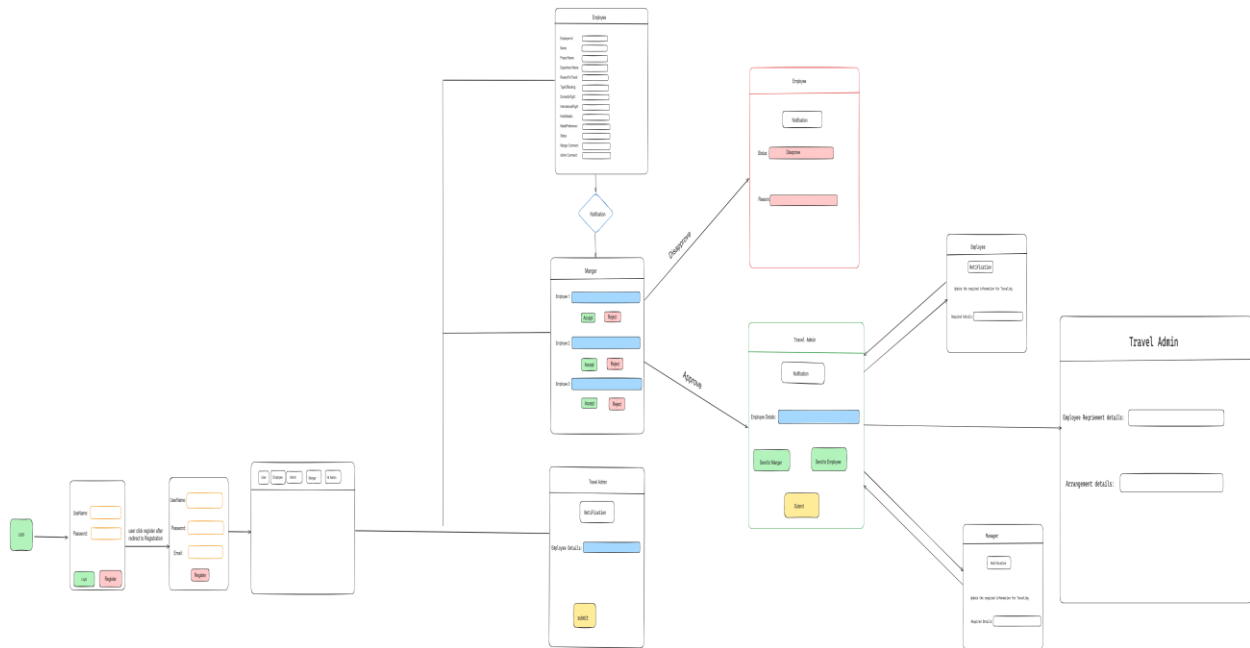## 5.User Roles & Characteristics

Admin: Users with admin access to all features.

HR Travel Admin: Travel Admin Team members.

Employees: All employees of the organization.

Manager: Employee managers for approving/rejecting travel requests.

6. Workflow Diagram

7. Functional Requirements

Use Case 1: Logging in to Travel Desk

Actor: Admin, HR Travel Admin, Employees, Managers

Flow of Events:

1. Actor enters the portal URL in a browser.

2. System presents a login form.

3. Actors fill in their valid login credentials (Email and Password).

4. Actor clicks on the 'Log In' button.

5. System validates login credentials.

6. System redirects the user to the portal landing page.

Exception Flow:

1. Actors fill in invalid login credentials (Email and Password).

2. Actor clicks on the 'Log In' button.

3. System validates login credentials.

4. System identifies incorrect login credentials.

5. System displays the message: "Please enter the correct Email & Password".

Pre-Conditions:

- User is authorized to access the Travel Desk portal.

Post-Conditions:

- System navigates the user to the home page upon successful login.

Business Rules:

- An existing user should be authenticated by their login credentials.

- Users will be authenticated based on their roles and responsibilities.

Use Case 2: Admin Rights

Actor: Admin

Flow of Events:

1. System displays the 'Admin Home' page.

2. System displays options: Add User, User Grid (Employee First Name, Employee Last Name, Employee ID, Employee Department, Role, Manager Name), Edit User, Delete User, Assign Role, Total user count.

3. Actor can edit/update the options.

Pre-Conditions:

- Actor can access the Admin Portal.

Post-Conditions:

- System saves the information provided by the users.

Business Rules:

- User should be authenticated by their login credentials.

- Users will be authenticated based on their roles and responsibilities.

Use Case 3: Employee Rights

Actor: Employee

Flow of Events:

1. Actor logs in and is redirected to the User Dashboard.

2. User Dashboard displays History Details and a button to create a new travel request form.

3. Actor can create a new request or view past requests.

4. Actor fills and submits the request form.

5. System generates a unique request number.

6. Automatic email is sent to the Employee's manager.

7. Actor can upload required documents to the portal.

8. Actor submits the request form and sends it to the manager for approval.

9. Form is read-only after submission until returned by Manager/Travel Admin.

10. Actor can edit the form once returned to their queue by Travel Admin/Manager.

11. Request ID is read-only once closed in the history tab.

12. All comments are visible under the Request ID in Employee Dashboard.

Pre-Conditions:

- User must be logged in to Portal as per actor role.

Post-Conditions:

- Unique Request ID is generated upon form submission.

Business Rules:

- All fields are mandatory to fill by the user.

- Options to add/remove multiple documents.

- Options to preview/delete uploaded documents.

Use Case 4: Manager Rights

Actor: Manager

Flow of Events:

1. System navigates the actor to the home page.

2. Actor sees User Dashboard as per their role.

3. Actor views assigned Request IDs in the dashboard.

4. Actor can approve, disapprove, or return the request to the employee, adding comments for each action.

5. Upon approval, notification is sent to HR Travel Admin.

6. Actor updates comments if Request ID is reassigned.

7. Status of the form is visible to both Manager and Employee.

8. Completed Request ID is visible in Manager Dashboard.

Pre-Conditions:

- User must be logged in to Portal as per actor role.

Post-Conditions:

- System displays status to both actor and employee.

Business Rules:

- Comments section cannot be left blank.

Use Case 5: Travel Admin Rights

Actor: HR Travel Admin

Flow of Events:

1. Actor logs in using credentials.

2. System navigates the actor to the HR Travel Admin screen.

3. Actor views User Dashboard as per their role, displaying History for all Request IDs.

4. Actor selects Travel Request ID and performs actions: book a ticket/travel arrangement, return to manager, return to employee, with comments for each action.

5. Actor repeats actions if request is reassigned.

6. Actor closes Request ID with Complete status and comments.

Pre-Conditions:

- User must be logged in to Portal.

- User is able to view assigned Request ID.

Post-Conditions:

- Notification sent to employee and manager whenever comments/status change.

Business Rules:

- Comments section cannot be left blank.

8. Non-Functional Requirements

8.1 Usability / Supportability

- Page Response Time: 3 to 10 seconds.

- Web Browser: Supports latest versions of Google Chrome, Safari, and Microsoft Edge.

- Item Display: Minimum 20 items per screen with options to change size (20, 50, 100).

- Error Messages: Appropriate error messages for system failures.

- Date Format: MM/DD/YYYY.

- Time Format: 24 Hours.

8.2 Accessibility

- Usability Requirements: Grids with search and filter options where required.

8.3 Design Consideration

- Notifications: (Details on how notifications will be designed and implemented).

8.4 Integration

- Email/SMS: Email notifications in the system to be sent using specified service.

- Frontend Interaction: Frontend application will interact with backend services using REST APIs.

9. Other Business Rules

- Email Notification: Email mechanism not required during training phase, to be implemented in live environment.

- Additional business rules to be defined as necessary.

10. Conclusion

The Travel Desk Portal for ABC represents a significant step forward in streamlining and automating the travel request and management process for employees. By leveraging a modern technology stack, including Angular for the frontend and ASP.NET Core for the backend, the portal offers a robust, user-friendly solution designed to meet the varied needs of all user roles—Admin, HR Travel Admin, Employees, and Managers.

Key Benefits

- **Efficiency**: The system replaces the manual, email-based process with a centralized, automated platform, reducing the time and effort required to manage travel requests.

- **Transparency**: Employees can track the status of their requests in real-time, while managers and travel admins have clear visibility into their responsibilities and pending tasks.

- **Security**: The implementation of JWT authentication ensures that sensitive data is securely handled, and user roles and permissions are strictly enforced.

- **Scalability**: The use of a modern technology stack ensures that the system can easily scale to accommodate future growth and additional features.

- **Usability**: Designed with a focus on user experience, the portal offers an intuitive interface, responsive design, and comprehensive error handling, making it accessible to all users.

Future Enhancements

As the system is deployed and used by the organization, additional features and enhancements can be considered to further improve its functionality and user experience. Potential future developments could include:

- **Mobile App**: Developing a mobile application to provide on-the-go access to the Travel Desk Portal.

- **Integration with Other Systems**: Connecting the portal with other HR and finance systems to further streamline the travel management process.

- **Advanced Reporting**: Implementing advanced reporting and analytics features to provide deeper insights into travel patterns and expenses.