PROJECT IDEATION PHASE

Metro Ticket Generating System using ServiceNow

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2. IDEATION PHASE

The Ideation Phase is a crucial stage in the development of the **Metro Ticket Generating System using ServiceNow**. This phase focuses on understanding the real-world problem, identifying user needs, exploring multiple solution ideas, and selecting the most feasible and effective approach. The ideation process ensures that the system is user-centric, scalable, and aligned with operational requirements of a metro transportation system.

This phase includes the following components: - Problem Statement - Objectives of the System - Stakeholder Identification - Empathy Map Canvas - Brainstorming and Idea Generation - Feasibility Analysis - Finalized Solution Concept

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2.1 Problem Statement

Urban metro systems face significant challenges in managing ticket issuance efficiently, especially during peak hours. Traditional ticketing methods such as physical counters and standalone vending machines often result in long queues, delays, human errors, and operational inefficiencies. Passengers experience inconvenience due to:

- Long waiting times at ticket counters
- Limited availability of staff during peak hours
- Manual errors in ticket generation and fare calculation
- Difficulty in tracking ticket sales and passenger data
- Lack of centralized monitoring and reporting

From the administrative perspective, metro authorities struggle with:

- Inefficient ticket management
- Limited visibility into ticket demand patterns
- Difficulty in handling service requests and issues
- Poor integration between departments

Hence, there is a strong need for a **centralized, automated, and scalable ticket generation system** that can simplify ticket issuance, improve passenger experience, and provide administrators with better control and insights.

2.2 Objectives of the System

The primary objective of the Metro Ticket Generating System is to automate and streamline the ticket generation process using the ServiceNow platform. The specific objectives include:

1. To provide a self-service ticket booking mechanism for metro passengers
2. To reduce dependency on manual ticket counters
3. To minimize waiting time and improve user satisfaction
4. To ensure accurate fare calculation based on source and destination
5. To maintain centralized ticket data for monitoring and reporting
6. To enable administrators to manage routes, fares, and ticket requests efficiently
7. To leverage ServiceNow's workflow automation and reporting capabilities

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2.3 Stakeholder Identification

Identifying stakeholders helps in understanding expectations and aligning system functionality accordingly. The major stakeholders involved in this system are:

1. Metro Passengers

- Primary users of the system
- Expect quick, simple, and reliable ticket generation
- Require easy access via web or kiosk interface

2. Metro Administration

- Responsible for managing operations
- Require dashboards, reports, and system control
- Interested in efficiency and transparency

3. Ticket Inspectors

- Verify tickets during travel
- Require accurate and verifiable ticket data

4. System Administrators

- Maintain the ServiceNow platform
- Manage users, workflows, and system configurations

2.4 Empathy Map Canvas

The Empathy Map helps in understanding the passenger's mindset and expectations. It focuses on what users **say, think, feel, and do**.

Says

- “I want to avoid long queues.”
- “Ticket booking should be quick.”
- “I don’t want confusion in fare calculation.”

Thinks

- “Is there a faster way to get tickets?”
- “Can I book tickets digitally?”
- “Will my ticket be valid and reliable?”

Feels

- Frustrated during rush hours
- Stressed due to time constraints
- Satisfied when the process is smooth and quick

Does

- Stands in long queues
- Uses vending machines if available
- Looks for digital alternatives

This analysis highlights the need for a **simple, fast, and automated ticketing solution**.

2.5 Brainstorming and Idea Generation

During brainstorming sessions, multiple ideas were explored to address the identified problems:

Idea 1: Mobile App-Based Ticketing

- Requires separate app development
- High development and maintenance cost

Idea 2: Smart Card System

- Requires physical card issuance
- Hardware dependency

Idea 3: Web-Based Ticketing Portal

- Easy access via browser
- Requires backend integration

Idea 4: ServiceNow-Based Ticket Generation System (Selected)

- Uses existing ServiceNow platform

- Built-in workflows and automation
- Centralized data management
- Reduced development effort

After evaluating the ideas, **ServiceNow-based implementation** was chosen due to its flexibility, scalability, and strong workflow capabilities.

2.6 Feasibility Analysis

Technical Feasibility

- ServiceNow supports catalog items, workflows, forms, and reporting
- Easy integration with databases and APIs
- Secure role-based access

Operational Feasibility

- Minimal training required for staff
- Easy adoption by users
- Streamlined operations

Economic Feasibility

- No need for separate infrastructure
- Reduced manpower cost
- Cost-effective implementation

Schedule Feasibility

- Faster development using ServiceNow modules
- Reusable components and templates

2.7 Finalized Solution Concept

Based on ideation and analysis, the finalized solution is a **Metro Ticket Generating System built on ServiceNow**, which includes:

- A Service Catalog item for ticket booking
- User-friendly forms for source and destination selection
- Automated fare calculation
- Workflow-based ticket approval and generation
- Centralized ticket database
- Reporting and dashboard for administrators

This system ensures a seamless experience for passengers while providing efficient control and monitoring capabilities for metro authorities.

Conclusion of Ideation Phase

The ideation phase successfully identified key challenges in the metro ticketing process and proposed an efficient, automated solution using ServiceNow. By focusing on user needs, operational efficiency, and feasibility, the Metro Ticket Generating System is positioned as a reliable and scalable solution for modern urban transportation systems.

This phase lays a strong foundation for the subsequent phases such as **Requirement Analysis, Design, Development, and Implementation**.