Metro Ticket Generating System

User Flow

Introduction

This document describes the User Interface (UI), User Experience (UX), and navigation flow of the **Metro Ticket Generating System** developed using ServiceNow. The primary objective is to ensure an intuitive, efficient, and user-friendly process for submitting transit requests and generating digital tickets.

Service Portal Procedure

To access the system and generate a ticket, follow this step-by-step manual for the Service Portal:

1. **Login to ServiceNow PDI**: Access your Personal Developer Instance using admin credentials.
2. **Access the Portal**: Copy the instance domain and add the prefix /sp to the URL (e.g., https://devXXXXX.service-now.com/sp).
3. **Search for Catalog Item**: Use the search bar to locate the **Book A Metro Ticket** item.

4. **Fill and Submit**: Enter travel details, including stations and passenger count, then click **Submit**.
5. **View Request**: A new request number is generated, and ticket details are displayed on the **Requested Item Page**.

UI & UX Considerations

The **Book a Metro Ticket** catalog item is designed with a clean and structured form layout to improve readability and reduce user effort.

- **Clearly Labeled Fields**: Ensures commuters understand required inputs like "Starting From" and "Going To".
- **Mandatory Indicators**: Visually identifies required travel information to prevent submission errors.
- **Real-time Fare Preview**: Provides an automated cost calculation before the user commits to the submission.
- **Dynamic UI Behaviour**: UI Policies and Client Scripts manage field visibility so that fields appear or hide based on the specific request type selected (e.g., hiding Smart Card fields during QR booking).

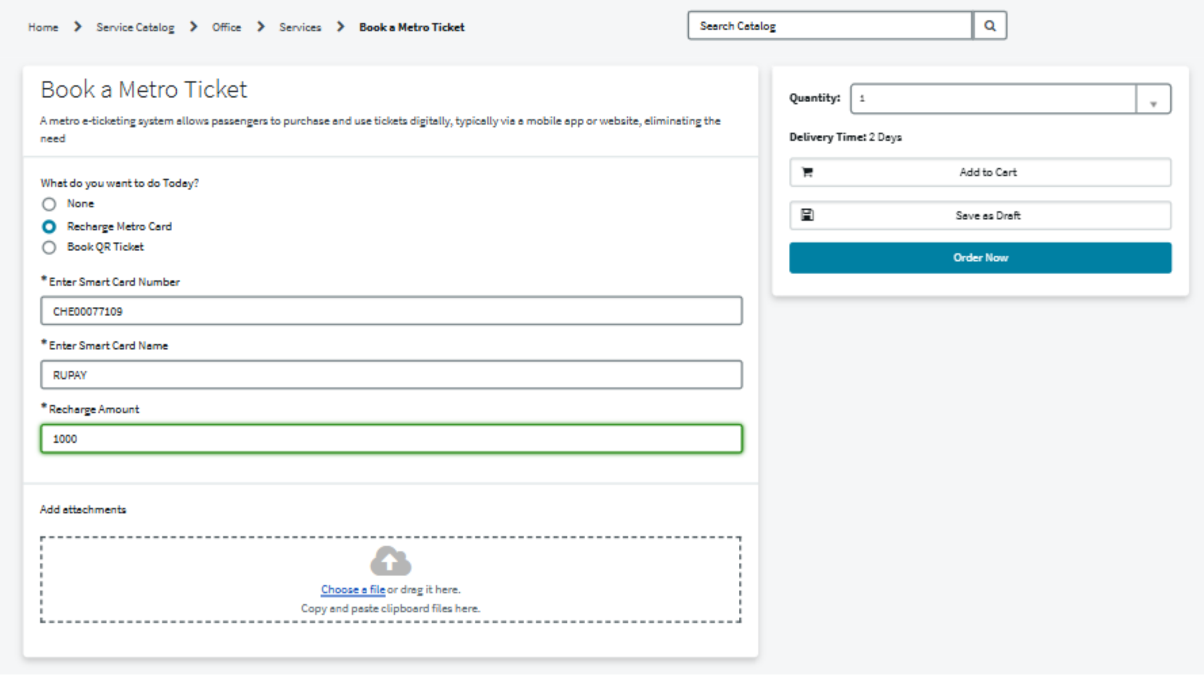
Dynamic UI Behaviour (User Path Logic)

To improve the User Experience (UX), UI Policies and Client Scripts manage field visibility so that fields appear or hide based on the specific selection made in the **"What do you want to do Today?"** variable.

Option A: Smart Card Recharge Flow

When a user selects **Recharge Metro Card**, the form dynamically adapts to show card-specific fields while hiding journey variables.

- **Fields Displayed**: Smart Card Number, Smart Card Name, and Recharge Amount.
- **Table Mapping**: Data captured here is mapped to the **Metro Station's Details** (u_metro_station_s_details) table.



Home > Service Catalog > Office > Services > Book a Metro Ticket
Search Catalog

Book a Metro Ticket

A metro e-ticketing system allows passengers to purchase and use tickets digitally, typically via a mobile app or website, eliminating the need

What do you want to do Today?

○ None
● Recharge Metro Card
○ Book QR Ticket

*Enter Smart Card Number: CHE00077109

*Enter Smart Card Name: RUPAY

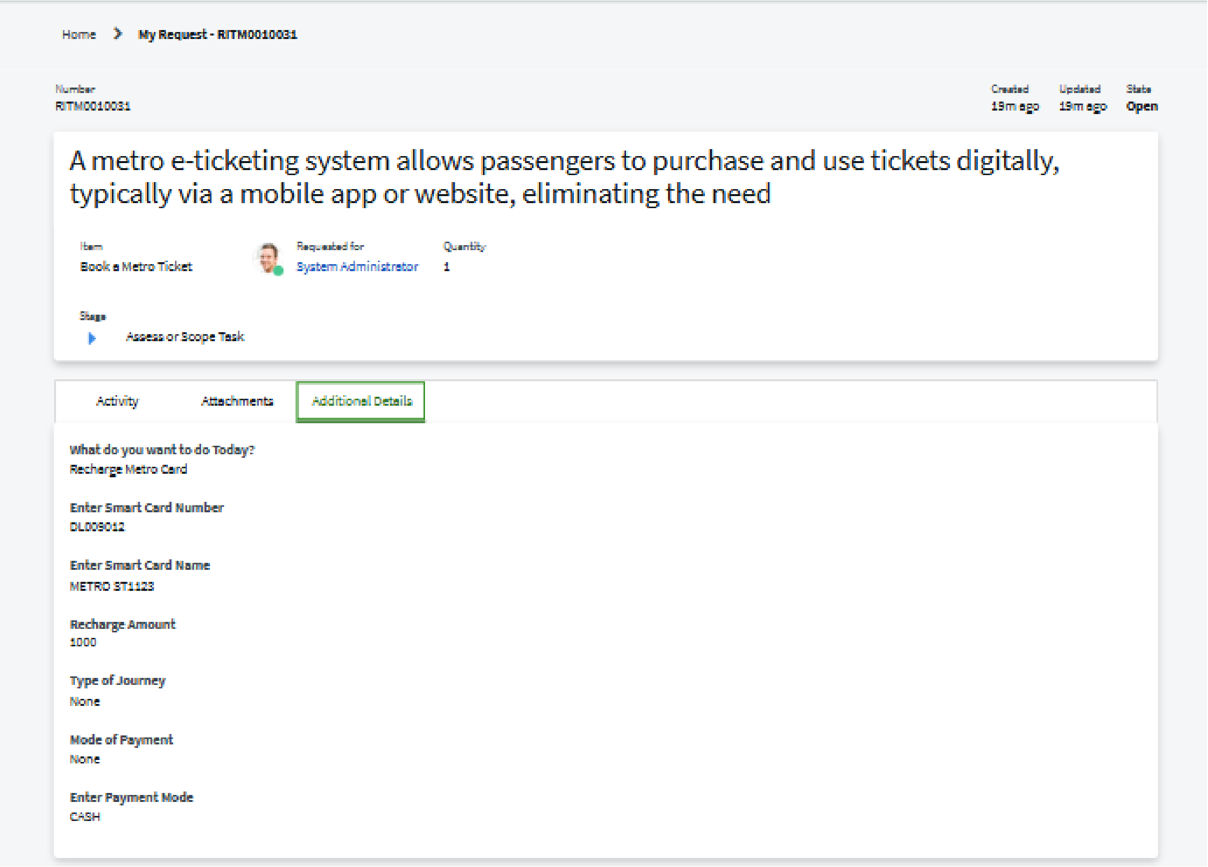
*Recharge Amount: 1000

Quantity: 1

Delivery Time: 2 Days

Add attachments
Choose a file or drag it here.
Copy and paste clipboard files here.
Add to Cart
Save as Draft
Order Now

Figure 1: Smart Card Recharge Interface Dynamic UI displays card variables and hides travel-specific fields.



Number
RITM0010031

Created
19m ago

Updated
19m ago

State
Open

A metro e-ticketing system allows passengers to purchase and use tickets digitally, typically via a mobile app or website, eliminating the need

Item
Book a Metro Ticket

Requested for
System Administrator

Quantity
1

Stage
Assess or Scope Task

What do you want to do Today?
Recharge Metro Card

Enter Smart Card Number
DL009012

Enter Smart Card Name
METRO ST1123

Recharge Amount
1000

Type of Journey
None

Mode of Payment
None

Enter Payment Mode
CASH

Figure 2: Dynamic UI for Smart Card Recharge — Displays card-specific variables like Smart Card Number and Recharge Amount while hiding journey fields.

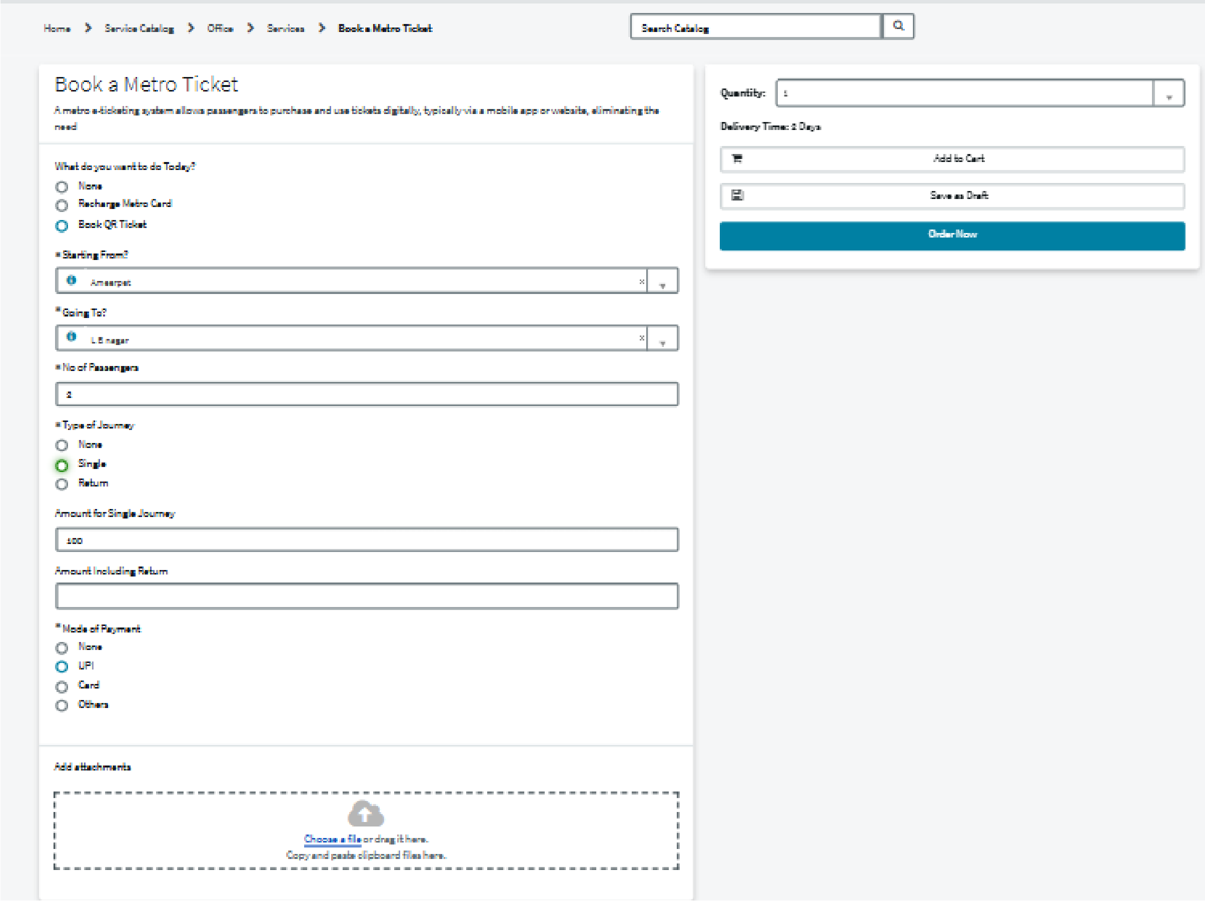
Key Technical Details:

- **Field Mapping**: These variables map directly to the **Metro Station's Details** (u_metro_station_s_details) table.
- **Table Schema**: The backend table includes fields for "Smart Card Name," "Smart Card Number," and "Recharge Amount".

Option B: Book QR Ticket Flow

When a user selects **Book QR Ticket**, the form reveals journey-specific variables and calculates costs in real-time.

- **Fields Displayed**: Starting From, Going To, No of Passengers, Type of Journey, and Mode of Payment.
- **Fare Preview**: Displays the "Amount for Single Journey" or "Amount Including Return" based on the selected stations.



Home > Service Catalog > Office > Services > Book a Metro Ticket
Search Catalog

Book a Metro Ticket

A metro e-ticketing system allows passengers to purchase and use tickets digitally, typically via a mobile app or website, eliminating the need

What do you want to do Today?

○ None
○ Recharge Metro Card
● Book QR Ticket

* Starting From?

Ameerpet

* Going To?

L B nagar

* No of Passengers

2

* Type of Journey

○ None
● Single
○ Return

Amount for Single Journey

100

Amount Including Return

* Mode of Payment

○ None
● UPI
○ Card
○ Others

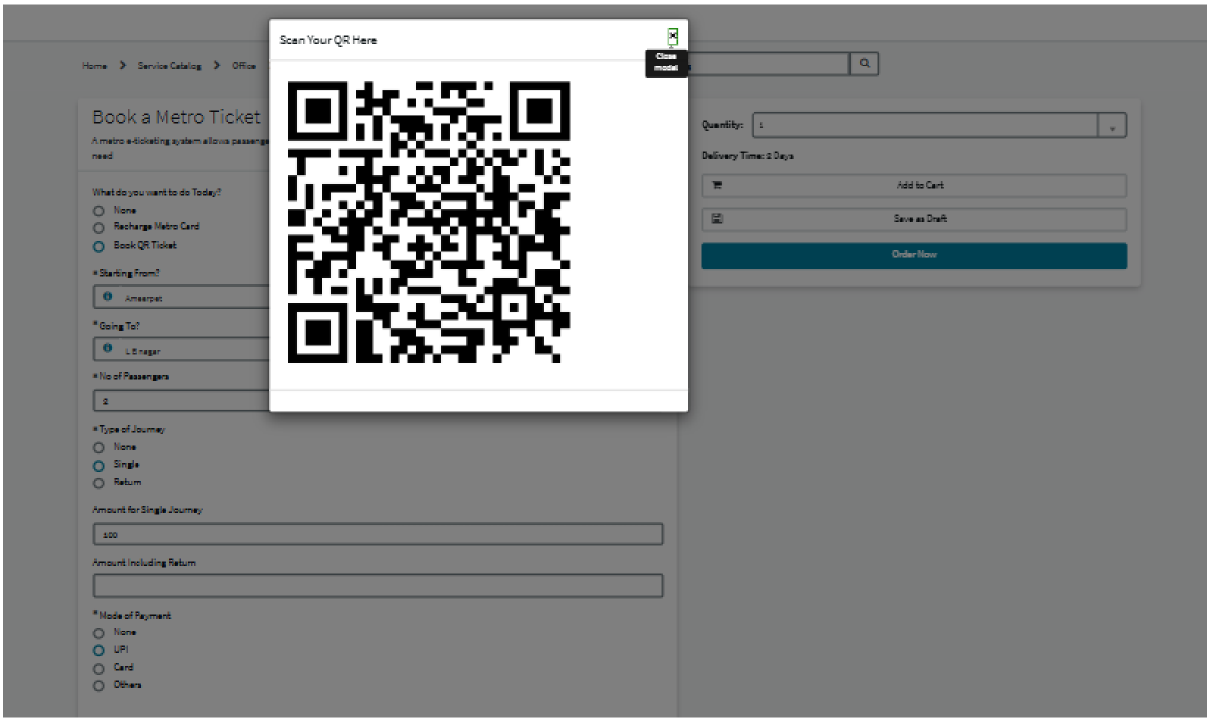
Add attachments

Choose a file or drag it here.
Copy and paste clipboard files here.

Quantity: 1

Delivery Time: 2 Days

Figure 3: QR Ticket Booking Interface — System reveals station selection and passenger count fields.



Scan Your QR Here

Book a Metro Ticket

A metro e-ticketing system allows passenge[rs] ... need

What do you want to do Today?
○ None
○ Recharge Metro Card
● Book QR Ticket

* Starting From?
Ameerpet

* Going To?
L B nagar

* No of Passengers
2

* Type of Journey
○ None
● Single
○ Return

Amount for Single Journey
100

Amount Including Return

* Mode of Payment
○ None
● UPI
○ Card
○ Others

Quantity: 1

Delivery Time: 2 Days

Figure 4: QR Ticket Booking Interface — System shows QR code for payment .

Key Technical Details:

- **Trigger Selection:** The user selects "Book QR Ticket" from the primary choice variable.
- **Real-time Fare Preview:** The "Amount for Single Journey" field auto-populates (e.g., 100) based on the stations selected, such as "Ameerpet" to "L B Nagar".
- **Mandatory Fields**: Journey details and "Mode of Payment" become mandatory to ensure complete transaction data.

QR Mapping and Fulfilment Process

The fulfilment flow is fully automated to ensure transparency and accountability.

- **QR Mapping**: Upon submission, the system executes an onSubmit Catalog Client Script that maps the unique record sys_id to a QR code API.
- **Instant Rendering**: The QR code is displayed immediately in an spModal popup, allowing the user to scan and enter the metro station without manual staff intervention.
- **Data Tracking**: The request variables are mapped from the catalog item to the custom **Metro Database** (u_metro_station_s_database) for permanent record storage.

Validation and Benefits

The UI/UX design was validated based on ease of navigation and error prevention through automated validations.

- **Improved Satisfaction**: Commuters benefit from faster request fulfilment.
- **Reduced Errors**: Dynamic fields and mandatory indicators minimize incorrect submissions.
- **Standardized Delivery**: Every ticket follows a predictable, automated logic path.

Conclusion

The combined UI, UX, and navigation design of the **Metro Ticket Generating System** ensures a smooth and efficient experience for end users. The implementation of dynamic forms, real-time fare previews, and automated QR generation significantly improves usability and operational efficiency in a high-traffic transit environment.