

# TRP Management System Requirements

## Objective

To manage basic Television Rating Point (TRP) data for programs and their channels with two tables. This system should allow CRUD operations on channels and programs, with necessary data validation and simple features.

## Features

### 1. Channel Management

- Add a new TV channel.
- Edit existing TV channel details.
- Delete a channel (if no associated programs exist).
- View a list of all TV channels.

### 2. Program Management

- Add a new program under a specific channel.
- Edit program details.
- Delete a program.
- View a list of all programs, grouped by channels.

### 3. Basic Features

- Display TRP scores for programs (entry by admin).
- Search programs by name or TRP score.
- Filter programs by channel.

## Database Schema

### 1. Channel Table

- ChannelId (Primary Key, Integer, Auto-increment)
- ChannelName (String, Max Length: 100, Required, Unique)
- EstablishedYear (Integer, Range: 1900 - Current Year, Required)
- Country (String, Max Length: 50, Required)

### 2. Program Table

- ProgramId (Primary Key, Integer, Auto-increment)
- ProgramName (String, Max Length: 150, Required, Unique within the channel)
- TRPScore (Decimal, Range: 0.0 - 10.0, Required)
- ChannelId (Foreign Key, Integer, Required)
- AirTime (Time, Required)

## Validation Requirements

### Channel Validation

1. ChannelName:
  - Required.
  - Maximum length of 100 characters.
  - Must be unique across all channels.
2. EstablishedYear:

- Required.
  - Must be between 1900 and the current year.
  - Should not be in the future.
3. Country:
- Required.
  - Maximum length of 50 characters.

### Program Validation

1. ProgramName:
- Required.
  - Maximum length of 150 characters.
  - Must be unique within the channel.
2. TRPScore:
- Required.
  - Must be a decimal value between 0.0 and 10.0.
3. ChannelId:
- Required.
  - Must reference an existing channel in the database.
4. AirTime:
- Required.
  - Must be a valid time in HH:mm:ss format.

### Functional Requirements

1. Add/Edit Forms:
- Channel and program forms should validate inputs before submission.
  - Display error messages for validation failures (e.g., 'Channel Name is required').
2. Delete Operations:
- Prevent deletion of a channel if associated programs exist.
  - Prompt confirmation before deleting.
3. Search/Filter:
- Enable searching programs by name or TRP score.
  - Allow filtering of programs by associated channel.

### Non-Functional Requirements

1. User Experience:
- Provide feedback on successful or failed operations (e.g., 'Channel added successfully').
  - Use pagination for program and channel lists.