# Assignment 6 Answer - Use Case, Business Rules, Data

Your team has elicited the following requirements for Manage Listing functionality.

Seller’s agent can **create** a new listing by providing the following mandatory listing information: Property Type (condo/house/townhouse), Property Description (free form field), Number of Bedrooms, Number of Bathrooms, Year Built, Original Price (when new listing), Updated Price (when updating listing), Gross Annual Taxes, Maintenance Fees (mandatory if Property Type is condo/townhouse, Parking, Locker, Listing Agent Name and optionally Room Sizes. System will validate that all mandatory information is provided and the data entered has acceptable values. If user input is not valid, system will display an error message to correct the entered information.

Seller’s agent must be able to **update** the listing with any additional or changed information above or **delete** any listing they created.

Seller’s agent must be logged into the system before creating or updating/deleting a listing.

Once listing is created/updated, it will be retained in the system. System will automatically assign a new Listing ID to a newly created listing.

When listing is first created or updated, user can save it as draft or publish it. System will automatically assign a status of the listing depending on the “save draft” or “publish” choice.

To modify existing listing, user will first need to search for the listing by providing search criteria, such as: Listing Agent, Listing Address, Listing Reference ID. At least one of these criteria must be provided, but none are mandatory. System will return a list of listings that match search criteria and will determine if the listing is allowed to be updated (i.e. the owner of the listing is the same agent that wants to update the listing). If no listings match the provided criteria, the system will let user know to update the search criteria.

Once user selects the listing they want, they can either view/update/delete (update and delete can only be done on a listing they own). When user attempts to delete a listing, system will prompt them to confirm the deletion.

User can cancel out of any action at any time, at which point user will need to be confirm the cancellation.

System error can also occur at any time and user will be informed to try another time.

**Your task:** Document Manage Listing Use Case + Business Rules + Data for this functionality

## UC01 – Manage Listing

**Use Case Description**

This use case describes a process where Seller Agent can create, update, and delete real estate listing by providing property information.

**Actors**

Primary: Seller Agent (user)

Secondary: N/A

**Pre-Conditions**

User is authenticated with the system

**Post-Condition**

Listing information has been retained in the system

**Basic Flow**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow** |
| 1 | This use case starts when user requests to create new listing | AF01 – Work With Existing Listing |
| 2 | System prompts for listing information:  DE01 – Property Type (M)  DE02 – Number of Bedrooms (M)  DE03 – Number of Bathrooms (M)  DE04 – Year Built (M)  DE05 – Original Price (M)  DE06 – Updated Price (O)  DE07 – Gross Annual Taxes (M)  DE08 – Maintenance Fees (O, M if DE01- Property Type is Condo/Townhouse)  DE09 – Parking (M)  DE10 – Locker (M)  DE11 – Property Description (M)  DE12 – Room Sizes (O)  DE13 – Listing Agent ID (M)  DE14 – Property Address (M) |  |
| 3 | User provides listing information and requests to continue |  |
| 4 | System successfully validates time entry information as per Data Validation rules for data in Step 2 in Data Dictionary | AF02 – Invalid User Input |
| 5 | System prompts user to publish listing |  |
| 6 | User requests to publish listing | AF03 – Don’t Publish and Save Draft |
| 7 | System assigns listing reference ID:  DE15 – Listing Reference |  |
| 8 | System determines and updates the status of listing as per BR01 – Determine Listing Status and retains listing information: DE16 – Listing Status |  |
| 9 | Use case ends. |  |

**AF01 – Work with Existing Listing**

|  | **Step** | **Alternative Flow** |
| --- | --- | --- |
| 1 | This flow starts at step 1 of Basic Flow when user requests to modify existing listing |  |
| 2 | System prompts for listing search criteria  At least one of DE13, DE14 or DE15 must be provided:  DE13 – Listing Agent (O)  DE14 – Listing Address (O)  DE15 – Listing Reference ID (O) |  |
| 3 | User provides listing search criteria |  |
| 4 | System successfully validates listing search criteria as per data validation rules for data in Step 2 in Data Dictionary | AF02 – Invalid User Input |
| 5 | System successfully retrieves desired listing | AF04 – Listing Not Found |
| 6 | System determines that listing update is allowed as per BR02 – Determine Listing Permissions | AF05 – No Permission to Update/Delete |
| 7 | User requests to update listing | AF06 – View and Exit  AF07– Delete Listing |
| 8 | This flow resumes at step 2 of the basic flow |  |

**AF02 – Invalid User Input**

|  | **Step** | **Alternative Flow, Data, Rules** |
| --- | --- | --- |
| 1 | This flow starts at step 4 of Basic Flow and step 4 of AF01 – Work With Existing Listing when system determines user provided invalid information |  |
| 2 | System informs user that input was invalid |  |
| 3 | This flow resumes at step 2 of Basic Flow or Step 2 of AF01 – Work With Existing Listing |  |

**AF03 – Save Draft**

|  | **Step** | **Alternative Flow, Data, Rules** |
| --- | --- | --- |
| 1 | This flow starts at step 6 of Basic Flow when user requests to save draft without publishing it |  |
| 2 | System retains information without publishing |  |
| 3 | Use case ends |  |

**AF04 – Listing Not Found**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at step 6 of AF01 – Work With Existing Listing when system does not return search results |  |
| 2 | System informs user that requested listing was not found |  |
| 3 | This flow resumes at step 2 of AF01 – Work With Existing Listing |  |

**AF05 – No Permission to Update/Delete**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at step 6 of AF01 – Work With Existing Listing when system determines listing update/delete is not allowed |  |
| 2 | System informs user that listing update/delete is not allowed |  |
| 3 | This flow returns at step 2 of AF01 – Work With Existing Listing |  |

**AF06 – View and Exit**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at step 6 of AF01 – Work With Existing Listing when user requests to view and exit |  |
| 2 | User case ends. |  |

**AF07 – Delete Listing**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at step 6 of AF01 – Work With Existing Listing when user requests to delete listing |  |
| 2 | System prompts user to confirm deletion of listing |  |
| 3 | User confirms deletion |  |
| 4 | System determines the status of listing as per BR01 – Listing Status and updates listing information in DE16 – Listing Status |  |
| 5 | User case ends. |  |

**AF08 – Cancel**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at any step when user requests to cancel |  |
| 2 | System prompts user to confirm they want to cancel |  |
| 3 | User confirms they want to cancel |  |
| 4 | Use case ends |  |

**AF09 – System Error**

|  |  |  |
| --- | --- | --- |
|  | **Step** | **Alternative Flow, Data, Rules** |
| 1 | This flow starts at any step when system error occurs |  |
| 2 | System informs user that error occurs |  |
| 3 | Use case ends |  |

## Business Rules

|  |  |  |
| --- | --- | --- |
| **ID** | **Name** | **Business Rule** |
| BR01 | Determine Listing Status | DE016- Listing Status: |
| BR02 | Determine Listing Permissions | |  |  |  |  | | --- | --- | --- | --- | | DE15-User ID | View Listing | Update Listing | Delete Listing | | Equal to DE13 - Listing Agent ID | Y | Y | Y | | Not Equal to DE13 Listing Agent ID | Y | N | N | |

## Data Dictionary

| **ID** | **Business Name** | **Description** | **Validation Rule** | **Calculation Rule** | **Sample Data** |
| --- | --- | --- | --- | --- | --- |
| DE01 | Property Type | Type of the property listed | Condo  House  Townhouse | N/A | House |
| DE02 | Number of Bedrooms | Number of bedrooms the property has | Numeric | N/A | 4 |
| DE03 | Number of Bathrooms | Number of bathrooms the property has | Numeric | N/A | 5 |
| DE04 | Year Built | Year the property was built | Year format | N/A | 2000 |
| DE05 | Original Price | Listing price | Numeric | N/A | $1,499,000 |
| DE06 | Updated Price | Updated listing price | Numeric | N/A | $1,450,000 |
| DE07 | Annual Taxes | Municipal taxes on the property | Numeric | N/A | $3,700 |
| DE08 | Annual Maintenance Fees | Maintenance fees payable | Numeric | N/A | $2,500 |
| DE09 | Parking | Does property have parking and how many | Numeric | N/A | 2 |
| DE10 | Locker | Does property have locker and how many | Numeric | N/A | 0 |
| DE11 | Property Description | Description of the property in free form | 500 characters | N/A | Beautiful 4 bedroom house on a lot overlooking the forest… |
| DE12 | Room Sizes | Sizes of the room in free form | 500 characters | N/A | Living Room: 18’X20’  Bedroom 1: 15’X20’  Etc.. |
| DE13 | Listing Agent ID | Registration ID of the listing agent | 6 characters | N/A | 345002 |
| DE14 | Property Address | Address of the property | 200 characters, must contain valid postal code | N/A | 160 Kendal Avenue, Toronto, ON, M5R 1M3 |
| DE15 | User ID | ID of the user as logged into the system | 6 characters | N/A | 123456 |
| DE16 | Listing Status | Status of the listing in the system | N/A | BR01-Determine Listing Status | Draft |