**Search Contacts in Odoo Contacts Module**

**(19L-1229-BCS-8A-1st User Story and Related Work)**

**User Story:** As a sales representative, I want to be able to search for contacts by name, email, or phone number, so that I can quickly find the contact information I need to make a sale.

**Equivalence Class Partitions:**

1. **Valid name search:** Searching for a contact by their first or last name, which is a valid input.
2. **Invalid name search:** Searching for a contact using an invalid name, such as special characters or numbers.
3. **Valid email search:** Searching for a contact by their email address, which is a valid input.
4. **Invalid email search:** Searching for a contact using an invalid email address, such as a malformed email address or an email address that does not exist.
5. **Valid phone number search:** Searching for a contact by their phone number, which is a valid input.
6. **Invalid phone number search:** Searching for a contact using an invalid phone number, such as a number with too many digits or special characters.
7. **Search by multiple fields:** Searching contact using a combination of name, email, and phone number.
8. **No matching contacts:** Searching for a contact that does not exist in the system.
9. **Multiple matching contacts:** Searching for a contact with a common name or email address that returns multiple matches.
10. **Case sensitivity:** Testing if the search is case sensitive or insensitive.

**Boundary Value Analysis:**

1. **Valid name search:**
   1. Minimum valid input: a single character name (e.g. "A")
   2. Maximum valid input: a name with the maximum allowed length (which may vary depending on the implementation, but let's say it's 50 characters)
   3. Just below minimum: an empty string
   4. Just above maximum: a name with 51 characters
2. **Valid email search:** Assuming that the email field can contain up to 254 characters
   1. Lower boundary: An email address with the minimum number of characters allowed (1). Example: a@example.com
   2. Nominal value: An email address with a length of 50 characters. Example: [john.doe1234567890abcdefghijklmnopqrstuvwxyz@example.com](mailto:john.doe1234567890abcdefghijklmnopqrstuvwxyz@example.com)
   3. Upper boundary: An email address with the maximum number of characters allowed (254).
3. **Valid phone number search:**
4. **Valid input:** (000)-000-0000 to (999)-999-9999
5. **Invalid input:**
   * (999)-999-9999+1 (maximum value + 1)
   * (000)-000-0000-1 (minimum value - 1)
   * (999)-999-9999 (maximum value)
   * (000)-000-0000 (minimum value)
6. **Searching by multiple fields:**

We can consider the following boundary values:

* Minimum valid name and minimum valid email
* Maximum valid name and maximum valid email
* Minimum valid name and maximum valid email
* Maximum valid name and minimum valid email
* Invalid name and minimum valid email
* Invalid name and maximum valid email
* Minimum valid name and invalid email
* Maximum valid name and invalid email

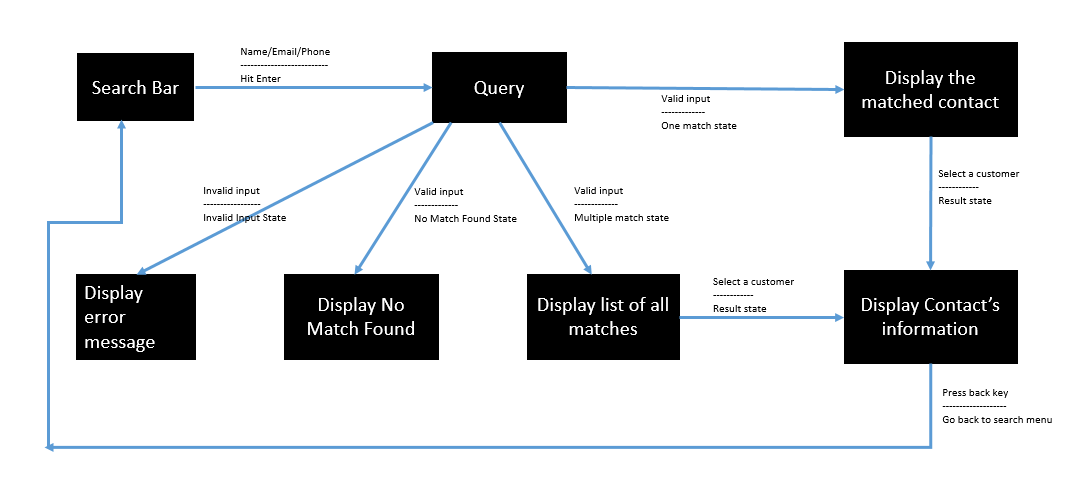
We can apply similar boundary values for searching by different combinations of fields, such as name and phone number, email and phone number, and all three fields together.

1. **Multiple matching contacts:**

Assuming that the maximum number of contacts that can be returned in the search results is 50, the boundary values for this partition would be:

* Minimum number of contacts: 2
* Maximum number of contacts: 50
* Number of contacts just above the boundary: 51
* Number of contacts just below the boundary: 1

**State Transition Diagram**



**Gherkin Test Cases**

1. **Scenario:** Search for a contact by their first name

**Given** I am on the contacts page

**When** I enter a valid first name in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the first name

**And** the list should not contain any contacts with a different first name.

1. **Scenario:** Search for a contact by their last name

**Given** I am on the contacts page

**When** I enter a valid last name in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the last name

**And** the list should not contain any contacts with a different last name

1. **Scenario:** Search for a contact by their email address

**Given** I am on the contacts page

**When** I enter a valid email address in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the email address

**And** the list should not contain any contacts with a different email address

1. **Scenario:** Search for a contact by their phone number

**Given** I am on the contacts page

**When** I enter a valid phone number in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the phone number

**And** the list should not contain any contacts with a different phone number

1. **Scenario**: Search for a contact by their first and last name

**Given** I am on the contacts page

**When** I enter a valid first name and last name in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the first and last name

**And** the list should not contain any contacts with a different first or last name

1. **Scenario**: Search for a contact by their first name and email address

**Given** I am on the contacts page

**When** I enter a valid first name and email address in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the first name and email address

**And** the list should not contain any contacts with a different first name or email address

1. **Scenario**: Search for a contact by their last name and email address

**Given** I am on the contacts page

**When** I enter a valid last name and email address in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the last name and email address

**And** the list should not contain any contacts with a different last name or email address

1. **Scenario**: Search for a contact by their first name, last name and email address

**Given** I am on the contacts page

**When** I enter a valid first name, last name and email address in the search bar

**And** I click the search button

**Then** I should see a list of contacts matching the first name, last name and email address

1. **Scenario**: Search for a contact with invalid email

**Given** the user is on the search page

**When** they enter an email address with invalid characters

**And** click on the search button

**Then** the system should display an error message "Invalid email address entered"

1. **Scenario**: Search for a contact with invalid phone number

**Given** the user is on the search page

**When** they enter a phone number with invalid characters

**And** click on the search button

**Then** the system should display an error message "Invalid phone number entered"