Boundary values and equivalence classes analysis

There are 3 entities to analyze.

Pet

```
👤 Komínek, Martin *
@Entity
@Table(name = "pets")
public class Pet extends NamedEntity {

    2 usages
    @Column(name = "birth_date")
    @DateTimeFormat(pattern = "yyyy-MM-dd")
    private LocalDate birthDate;

    2 usages
    @ManyToOne
    @JoinColumn(name = "type_id")
    private PetType type;

    1 usage
    @OneToMany(cascade = CascadeType.ALL, fetch = FetchType.EAGER)
    @JoinColumn(name = "pet_id")
    @OrderBy("visit_date ASC")
    private Set<Visit> visits = new LinkedHashSet<>();

    no usages   👤 Komínek, Martin *   2 related problems
    public void setBirthDateWh(LocalDate birthDate) { this.birthDate = birthDate; }

    👤 Komínek, Martin
    public LocalDate getBirthDate() { return this.birthDate; }

    👤 Komínek, Martin
    public PetType getType() { return this.type; }

    👤 Komínek, Martin
    public void setType(PetType type) { this.type = type; }

    👤 Komínek, Martin
    public Collection<Visit> getVisits() { return this.visits; }

    2 usages   👤 Komínek, Martin
    public void addVisit(Visit visit) { getVisits().add(visit); }
}
```

Equivalence classes:

- Birth date - not valid, not valid values in format(switched month and day), valid date
- PetType - valid type, not valid type

- Name - not valid, Valid Name

Boundary values: Hardly applied to String, but null,Empty and valid for each string and for date similar with addition of valid format but not valid date,same for set

Owner

```
 Komínek, Martin
@Entity
@Table(name = "owners")
public class Owner extends Person {

    3 usages
    @Column(name = "address")
    @NotBlank
    private String address;


    3 usages
    @Column(name = "city")
    @NotBlank
    private String city;


    3 usages
    @Column(name = "telephone")
    @NotBlank
    @Digits(fraction = 0, integer = 10)
    private String telephone;


    1 usage
    @OneToMany(cascade = CascadeType.ALL, fetch = FetchType.EAGER)
    @JoinColumn(name = "owner_id")
    @OrderBy("name")
    private List<Pet> pets = new ArrayList<>();


     Komínek, Martin
    public String getAddress() { return this.address; }
```

Equivalence class:
- Telephone - not valid, valid phone

- Address - valid , not valid
- City - not valid, Valid
- Last Name - not valid, Valid Name
- Surname - not valid, Valid Name

Boundary values: Hardly applied to String, but null,Empty and valid for phone trying one shorter and longer string

Visit

```
16 usages    ● Komínek, Martin
@Entity
@Table(name = "visits")
public class Visit extends BaseEntity {

    3 usages
    @Column(name = "visit_date")
    @DateTimeFormat(pattern = "yyyy-MM-dd")
    private LocalDate date;


    2 usages
    @NotBlank
    private String description;

```

Equivalence class:
- Visit date - not valid, not valid values in format(switched month and day), valid date
- Note - not valid , valid

Boundary values: Hardly applied to String, but null,Empty and valid for each string and for date similar with addition of valid format but not valid date
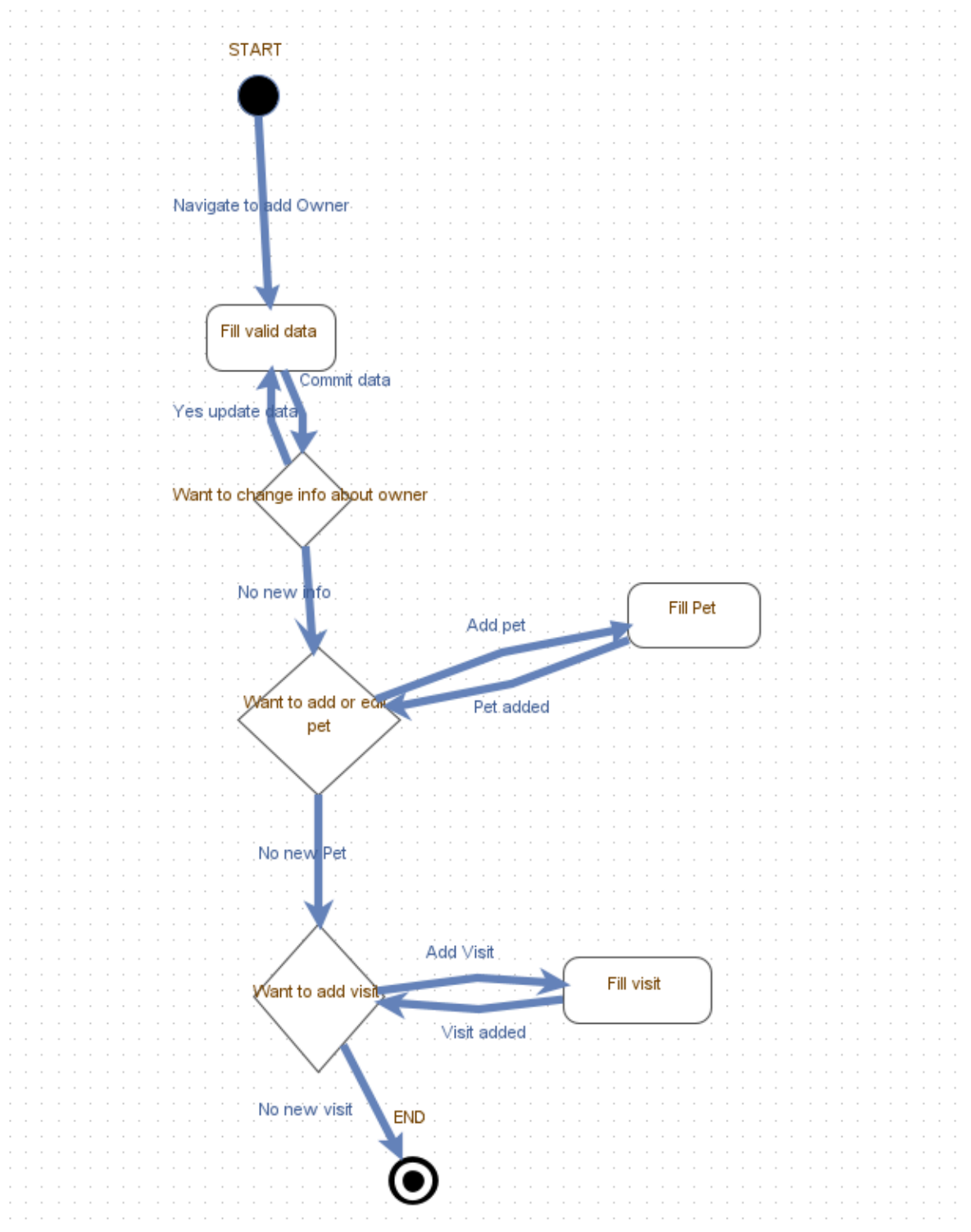
Combination of input data:

Using ACTMS i created mixed,2-way and 3-way combinations and placed them in test/resources

Process Testing:

I used oxygen to generate test paths.

Add user

TDL=1

1 Navigate to add Owner - Commit data - Yes update data - Commit data - No new info - Add pet - Pet added - No new Pet - Add Visit - Visit added - No new visit

TDL=2

1. Navigate to add Owner - Commit data - Yes update data - Commit data - No new info - Add pet - Pet added - Add pet - Pet added - No new Pet - Add Visit - Visit added - Add Visit - Visit added - No new visit

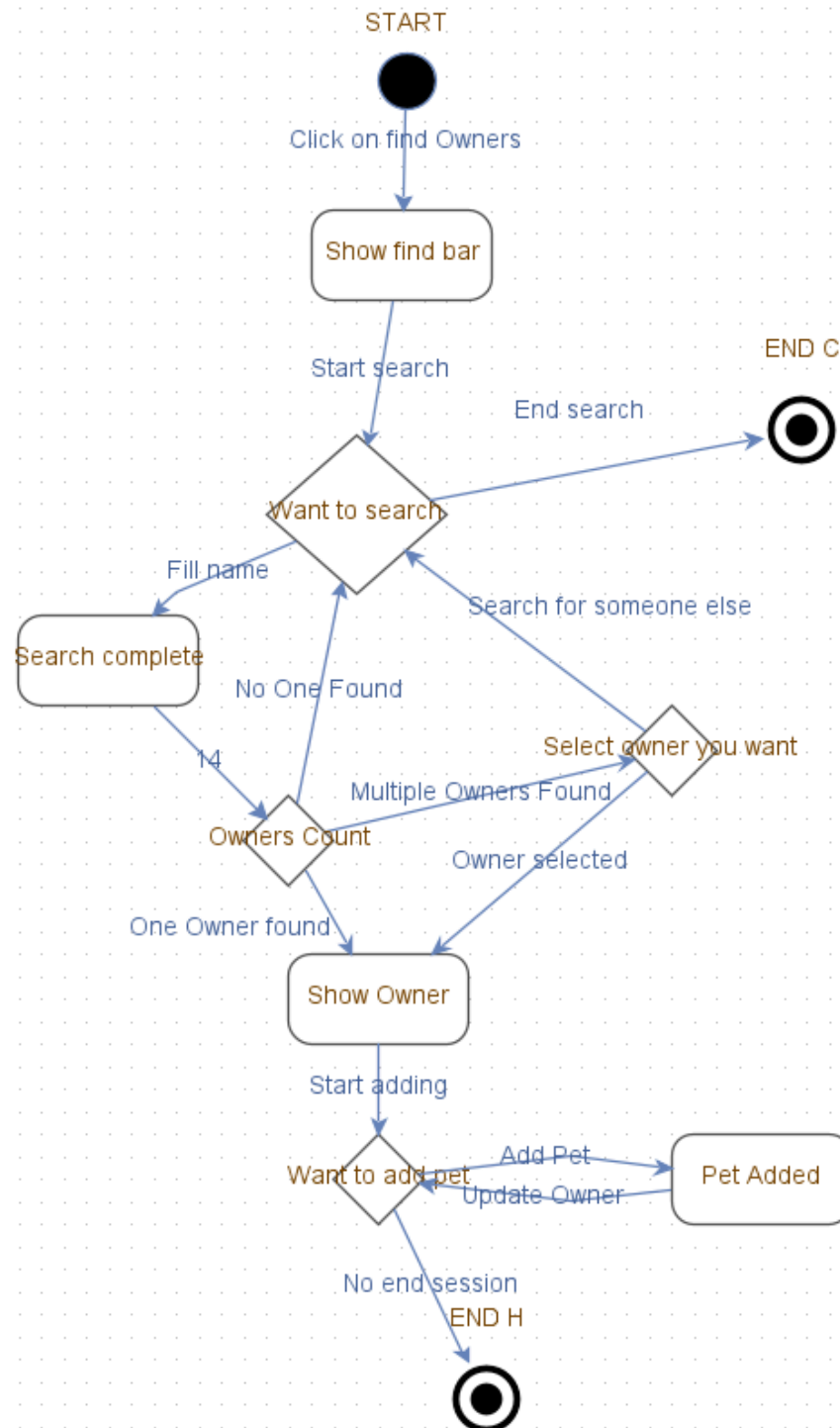2. Navigate to add Owner - Commit data - No new info - No new Pet - No new visit

TDL=3

1. Navigate to add Owner - Commit data - Yes update data - Commit data - Yes update data - Commit data - No new info - Add pet - Pet added - Add pet - Pet added - No new Pet - Add Visit - Visit added - Add Visit - Visit added - No new visit

2. Navigate to add Owner - Commit data - No new info - No new Pet - Add Visit - Visit added - Add Visit - Visit added - No new visit

3. Navigate to add Owner - Commit data - No new info - No new Pet - No new visit

4. Navigate to add Owner - Commit data - No new info - Add pet - Pet added - No new Pet - No new visit

Add Pet to existing user

START

Click on find Owners

Show find bar

Start search

End search

END C

Want to search

Fill name

Search for someone else

Search complete

No One Found

Select owner you want

t4

Multiple Owners Found

Owners Count

Owner selected

One Owner found

Show Owner

Start adding

Add Pet

Want to add pet

Pet Added

Update Owner

No end session

END H

TDL=1

1   Click on find Owners - Start search - End
    search

2   Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 -
    Multiple Owners Found - Search for someone else - End search

3   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner
    selected - Start adding - No end session

4   Click on find Owners - Start search - Fill name - 14 - One Owner found - Start adding -
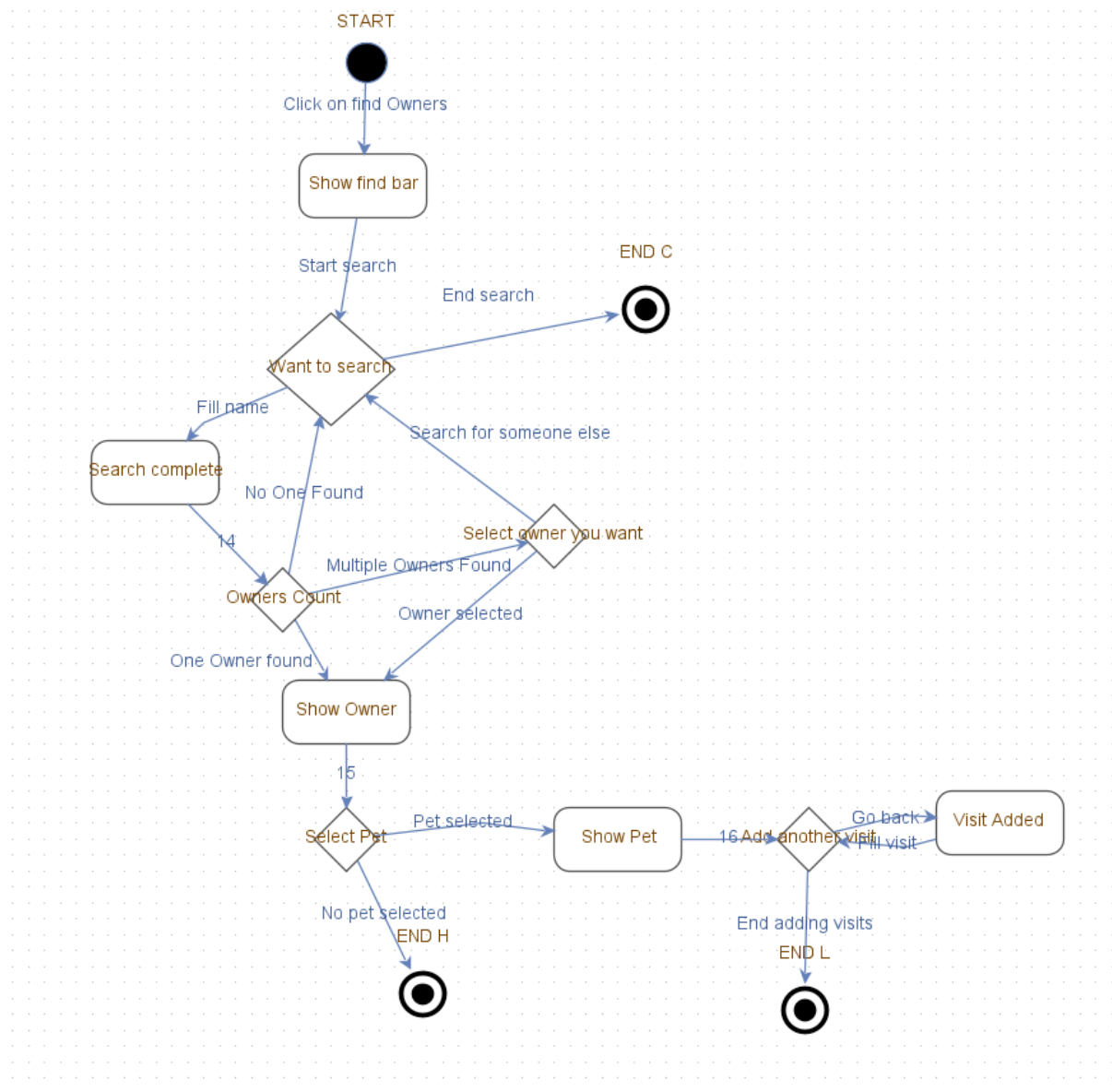   Add Pet - Update Owner - No end session

TDL=2

1   Click on find Owners - Start search - End
    search

2   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Search
    for someone else - End search

3   Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 -
    Multiple Owners Found - Search for someone else - Fill name - 14 - No One Found -
    End search

4   Click on find Owners - Start search - Fill name - 14 - One Owner found - Start adding -
    No end session

5   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner
    selected - Start adding - Add Pet - Update Owner - No end session

6   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner
    selected - Start adding - Add Pet - Update Owner - Add Pet - Update Owner - No end
    session

TDL=3

1. Click on find Owners - Start search - End search

2. Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Search for someone else - End search

3. Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 - Multiple Owners Found - Search for someone else - Fill name - 14 - No One Found - End search

4. Click on find Owners - Start search - Fill name - 14 - One Owner found - Start adding - No end session

5. Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - Start adding - No end session

6. Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - Start adding - Add Pet - Update Owner - No end session

7. Click on find Owners - Start search - Fill name - 14 - One Owner found - Start adding - Add Pet - Update Owner - Add Pet - Update Owner - No end session

Add Visit to existing pet of exiting user

START

Click on find Owners

Show find bar

Start search

Want to search

End search

END C

Fill name

Search for someone else

Search complete

No One Found

Select owner you want

14

Multiple Owners Found

Owners Count

Owner selected

One Owner found

Show Owner

15

Select Pet

Pet selected

Show Pet

16 Add another visit

Go back
Fill visit

Visit Added

No pet selected
END H

End adding visits
END L

TDL=1

1 Click on find Owners - Start search - End
   search

2 Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 -
   Multiple Owners Found - Search for someone else - End search

3 Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner
   selected - 15 - No pet selected

4   Click on find Owners - Start search - Fill name - 14 - One Owner found - 15 - No pet selected

5   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - End adding visits

6   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - Go back - Fill visit - End adding visits

TDL=2

1   Click on find Owners - Start search - End search

2   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Search for someone else - End search

3   Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 - Multiple Owners Found - Search for someone else - Fill name - 14 - No One Found - End search

4   Click on find Owners - Start search - Fill name - 14 - One Owner found - 15 - No pet selected

5   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - No pet selected

6   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - End adding visits

7   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - Go back - Fill visit - End adding visits

8   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - Go back - Fill visit - Go back - Fill visit - End adding visits

TDL=3

1   Click on find Owners - Start search - End search

2   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Search for someone else - End search

3   Click on find Owners - Start search - Fill name - 14 - No One Found - Fill name - 14 - Multiple Owners Found - Search for someone else - Fill name - 14 - No One Found - End search

4   Click on find Owners - Start search - Fill name - 14 - One Owner found - 15 - No pet selected

5   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - No pet selected

6   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - End adding visits

7   Click on find Owners - Start search - Fill name - 14 - One Owner found - 15 - Pet selected - 16 - Go back - Fill visit - End adding visits

8   Click on find Owners - Start search - Fill name - 14 - Multiple Owners Found - Owner selected - 15 - Pet selected - 16 - Go back - Fill visit - Go back - Fill visit - End adding visits

Unit testy

Pet Class,Pet Controller and Pet Validator
V Pet class 2 testy, v Pet Controlleru 11 testu a v Pet Validatoru 3 testy.,