

Counting sheep

Oviana - a Pharo based sheep administration system

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ESUG 2022 - Novi Sad Serbia



Mårum lam

Background

- ◆ Mårumlam is our hobby sheep farm
- ◆ around 30 ewes
- ◆ yearly 60 lambs.
- ◆ lamb sold to friends and colleagues and a dealer.
- ◆ started in 2005, more than 700 lambs.
- ◆ Each year we say goodbye to some ewes,
- ◆ and we pick some of the lambs to join the ranks of ewe's.

Spring sheeps



Lemming



Lamb



Lambs



Purpose of system

The system helps us in performing the following tasks:

- ◆ Selecting which lambs to pick for further breeding
- ◆ Selecting which ewes to wave bye to
- ◆ Registering of location (we use some animals for grasing in natural reserves)
- ◆ Registration of weight of lambs 3-4 times a season
- ◆ Registration of medication and minerals - some vaccines are mandatory
- ◆ Registration of births

Statistics

- ◆ What is the average number of lambs born
- ◆ Are they all healthy - do we have to feed them for example
- ◆ How fast do her lambs grow
- ◆ How fast her litter grow in total
- ◆ What is the grow rate over the last three years
- ◆ How many lambs died in birth (a reasonable rare event fortunately)

System domain

- ◆ Statistics. No end to the questions
 - ◇ statistics should be easy to add and present.
- ◆ Registrations.
 - ◇ aimple to add new kinds of registrations - and use these in statistics.
- ◆ Consistency
 - ◇ For example ensuring that a weight registration immediately updates the statistics

Disclaimer

I am new to Smalltalk and Pharo

- wrote some visual works in 1992-1996
- started on Pharo in 2020
- Ovina has been a way for me to learn Pharo
- Ovina existed in Java version before

Demo

- ◆ Sheep and Lamb view
 - ◇ Columns
 - ◇ Filters
 - ◇ Printing
- ◆ Events view
 - ◇ Sheep selection part
 - ◇ Event selection & creation
 - ◇ Data entry

column handling

- ◆ Object model
- ◆ GUI level
- ◆ Registrations
 - ◇ Database
 - ◇ Object model
 - ◇ GUI level

Database schema

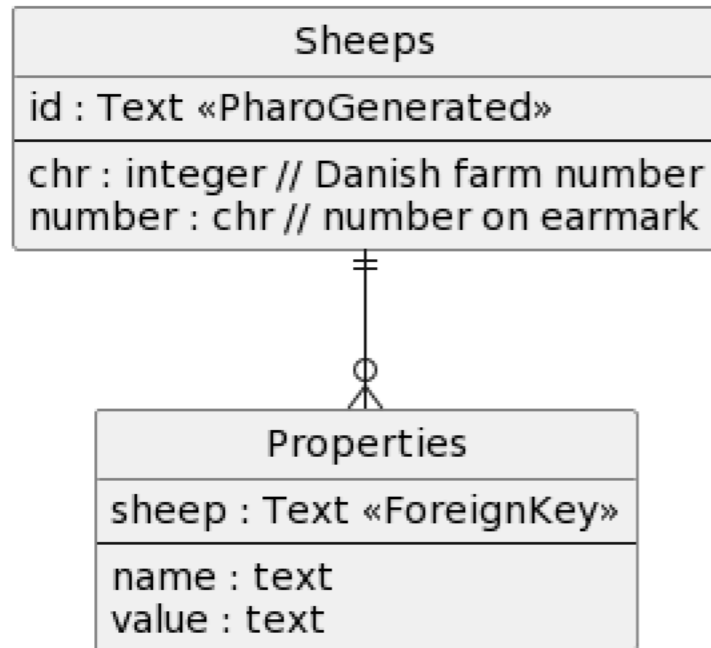
- ◆ Textbook mostly say "one table per domain class"
- ◆ Different ways to handle inheritance
 - ◇ Ovina: Sheep \Leftarrow (Ewe, Ram, Lamb)

Ovina characteristics

- ◆ Fields change - breed was introduced, later removed (computed)
- ◆ It has been moving towards supporting history (the events part)
 - ◇ For example: Location is computed, not a property

Ovina design

- ◆ Sheeps are in a combo of two tables



The sheep id is '[L|E|R]number', Lamb, Ewe, Ram.

Maintaining data in Database

OvinaModel announcer

```
when: OvinaModelSheepChanged do: [:ann | self storeSheep: ann  
sheep];
```

```
when: OvinaModelSheepRemoved do: [ :ann | self removeSheep: ann  
sheep ];
```

storeSheep: sheep

storeSheep: sheep

| stmt properties |

stmt := 'replace into Sheeps (id, chr, number) values ({1}, {2}, {3});'

format: {

sheep id printString.

sheep chr.

sheep number }.

self execute: stmt.

properties := sheep properties associations collect: [:a |

'({1}, {2},{3})' format: {

sheep id printString.

a key asString printString.

a value ovinaDBString }].

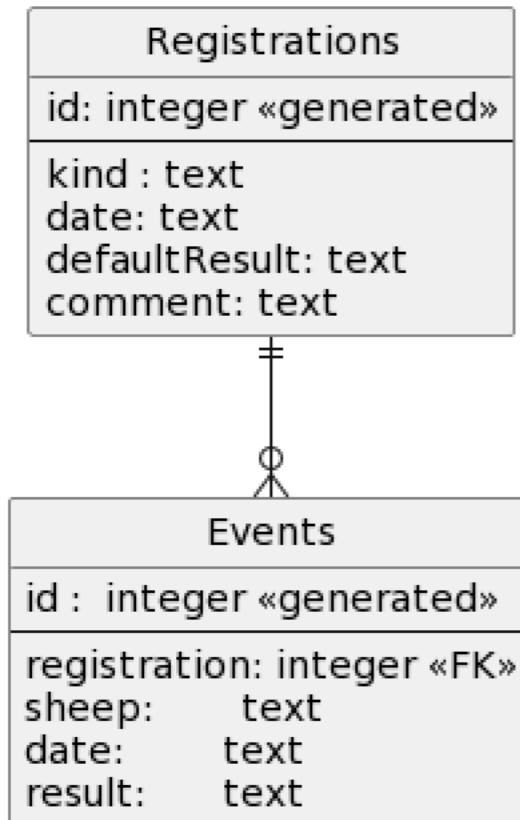
properties isEmpty: [^ self]. "When no properties are yet set."

stmt := 'replace into Properties (sheep, name, value) values {1};'

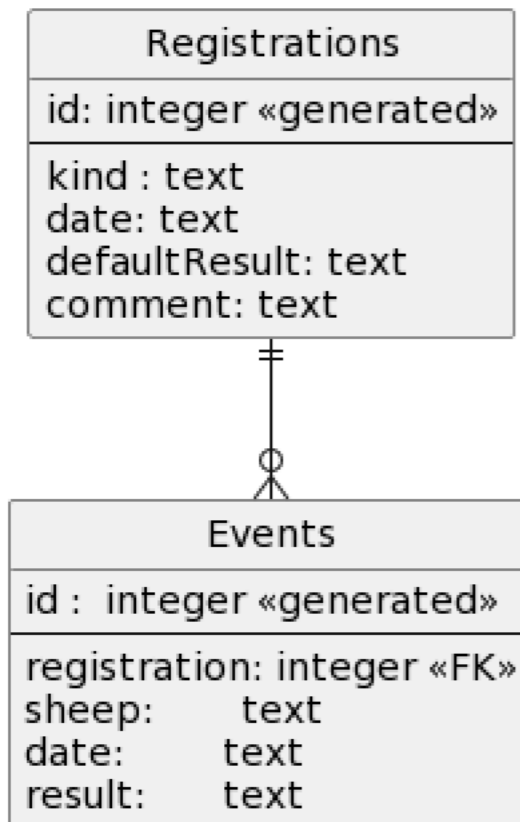
format: { (properties joinUsing: ',') }.

self execute: stmt

Events and Registrations



Events and Registrations



Making it into a MacOS app

- ✓ Tools to clean image
- ✓ Tailor top level menu's

- ✗ Create a MacOS *app*
- ✗ Reset keybinding (no alt-. for example)