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TS Citizen Developer - Basic

PFM300

Agenda

Module 1: TS Designer *(10 min)*
Module 2: Making changes *(20 min)*
Module 3: Building my first Entity *(30 min)*
Module 4: Datamodel *(30 min)*
Module 5: Relations *(60 min)*
Module 6: Workflow *(45 min)*
Module 7: User and group management *(20 min)*
Module 8: Permissions *(20 min)*
Module 9: Design and Best Practices *(20 min)*
Module 10: Build a solution *(90 min)*

Other relevant topics

- Dashboard configuration
- Merging data into files (templates)
- Interfaces / questionaire
- Using Excel as business logic
- Integration with other systems

Øvrige relevante emner

- Opsætning af dashboards
- Flette data ind i filer (templates)
- Interfaces / spørgeskemaer
- Excel som beregningsmodeller
- Integration med systemer

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TS Designer

Module 1 (10min)

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Module 1: TS Designer

<u>In this lesson you will:</u>

- become familiar with the TS Designer interface
- be introduced to the welcome page content, top menu bar and menu items.

<u>At the end of this lesson you should be able to:</u>

- login/out of the Designer and navigate the interface
- navigate the welcome page and be able to explain the content
- explain the purpose of the different dropdown categories in the top menu bar
- be able to conduct a quick search for Entities, Users, Fields

Making changes

Module 2 (20 min)

Module 2: Making changes

In this lesson you will:

- become familiar with an example front-end solution and understand how the solution is designed in the backend.

- receive an overall introduction to primary elements in the backend.

- be introduced to workflows.

- be introduced to permissions

- receive basic introduction to fields

At the end of this lesson you should be able to:

- learn how to edit existing solutions

- add a new field

- add another status

- deploy the changes

M2: Exercise

In this Exercise you will:

- Upgrade Company Cars
  - Add a status: Damaged
  - Add a new picture field: Damage picture

- Hint: Remember to deploy

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Building my first Entity

Module 3 (30 min)

Module 3: Building my first Entity

In this lesson you will:

- learn how to build a basic application (Entity) using the built-in step-by-step guide.
- learn how to work with datamodels and flowmodels

At the end of this lesson you should be able to:

- create basic applications by following the 5 steps in the step-by-step guide.
- identify and choose attributes for a datamodel in a simple use case.
- identify and specify states in a flowmodel for a simple use case.

M3: Exercise

In this Exercise you will:

- Design your own non-relational datamodel
    - Fields
    - Workflow

- Build and deploy your own entity

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Datamodel

Module 4 (30 min)

Module 4: Datamodel

In this lesson you will:

- be introduced to the predefined field types in Tempus Serva's field type selector and learn how to apply, edit and configure them in a datamodel

- learn how to setup validation and dependencies in datamodels

- learn how to group fields into Tabs on the front-end and change sort order to present the user with a logical user flow

- gain an understanding of field options and field display

At the end of this lesson you should be able to:

- work with the most common field types

- Setup unique fields

M4: Favorite datatypes

1. System fields (show)
2. Parent/child relations
3. Lookup and dependencies
4. Numbers and formulas
5. Enumerations
6. Files and pictures
7. Comments
8. Buttons
9. SQL subselects + Sums
10. Serials

Exercise

In this Exercise you will:

- Extending the solution you built in last exercise

    - Find a field that allows you to write comments
            ... add it to the solution

    - Set up a field with a dependency on another field

    - Add tabs to the form
        - Remember: Form AND fields must be set up

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Relations

Module 5 (60 min)

Module 5: Relations

In this lesson you will:

- be introduced to the concept of relational datamodels
- learn how to work with one-to-many and many-to-one relations and how to work around many-to-many scenarios
- achieve basic understanding of Fields and relations between parent and child.
- Learn about the difference between logical and physical entities

At the end of this lesson you should be able to:

- design and implement simple relational models
- understand normalization
- tell the difference between a good and a bad model
- work with wizards
- ~~identify whether an entity is logical or physical~~

M5: Normalization

Normalization
1. Atomic values
2. No repeating blocks
3. No field dependencies

Just remember:

Split into as many tables as possible

The long version ....

M5: Normalization

1. normalform - et eksempel

Vare_id	Navn	Kategori	Pris_1	Pris_2	Pris_3
210	Sofabord	Stue, Glas	699,50	749,50	779,00
212	Stol	Stue, Klassisk	499,00	529,50	

Vare_id	Navn
210	Sofabord
212	Stol

Kategori_id	Navn
11	Stue
12	Glas
13	Klassisk

Vare_id	Kategori_id
210	11
210	12
212	11
212	13

Vare_id	Pris
210	699,50
210	749,50
210	779,00
212	499,00
212	529,50

M5: Normalization

2. normalform - et eksempel

Ordre_id	Linie_id	Kunde_id	Ordre_dato	Vare_id	Antal
101	1	1013	13-08-2005	423	40
101	2	1013	13-08-2005	251	10
101	3	1013	13-08-2005	122	5

Ordre_id	Kunde_id	Ordre_dato
101	1013	13-08-2005
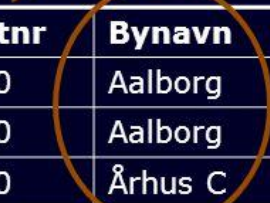
Ordre_id	Linie_id	Vare_id	Antal
101	1	423	40
101	2	251	10
101	3	122	5

M5: Normalization

3. normalform - et eksempel

Medarbejdere

Id	Navn	Adresse	Postnr	Bynavn
101	Hans Jensen	Sildevej 45	9000	Aalborg
102	Inga Petersen	Østre Alle 30	9000	Aalborg
103	Peter Andersen	Æblestien 4	8000	Århus C

Medarbejdere

Id	Navn	Adresse	Postnr
101	Hans Jensen	Sildevej 45	9000
102	Inga Petersen	Østre Alle 30	9000
103	Peter Andersen	Æblestien 4	8000

Postnumre

Postnr	Bynavn
9000	Aalborg
8000	Århus C

M5: Exercise 1

In this Exercise you will:

- Add a nested solution to company cars
  - Concept: Rental
  - Attributes
    - Car
    - Loan from
    - Loan to
    - Lender name

- Make sure the rentals are displayed on the cars

M5: Exercise 2 / Optional

In this Exercise you will:

• Design a **Zoo feeding** system on the board

• Hint: Race vs. concrete animal

Workflow

Module 6 (45 min)

Module 6: Workflow

In this lesson you will:

- learn the difference between state models and stage models
- learn how to design workflows
- understand the concept of creating stages
- learn how to work with action types (Notification by email, e-boks; Status change; Delete)
- have seen a demo of how "purge data" can be used to create policies for erasing data in accordance with GDPR etc.

At the end of this lesson you should be able to:

- design and setup workflows
- add and configure auto notifications to a solution

M6: Exercise

In this Exercise you will:

- Add notifications to the Company car solution
  - Send an email every time it is at the repair shop
  - Send an email if it has been to repairs for > 20 days

User and Group Management

Module 7 (20 min)

M7: User and Group Managment

In this lesson you will:

- learn how to manage Users and Roles in an existing solution
- learn how to work with and manage Groups
- learn how to setup permissions in order to ...
- be introduced to special roles and learn how they can be used

At the end of this lesson you should be able to:

- create standard users individually, by mass creation or full auto
- find and edit existing user
- reset passwords on behalf of users
- add/remove memberships to groups
- understand when and how to assign special roles to users

M7: Exercise

In this Exercise you will:

1. Create a user
2. Create a usergroup
3. Add new usergroup to new user
4. Add new usergroup to company cars

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Permissions
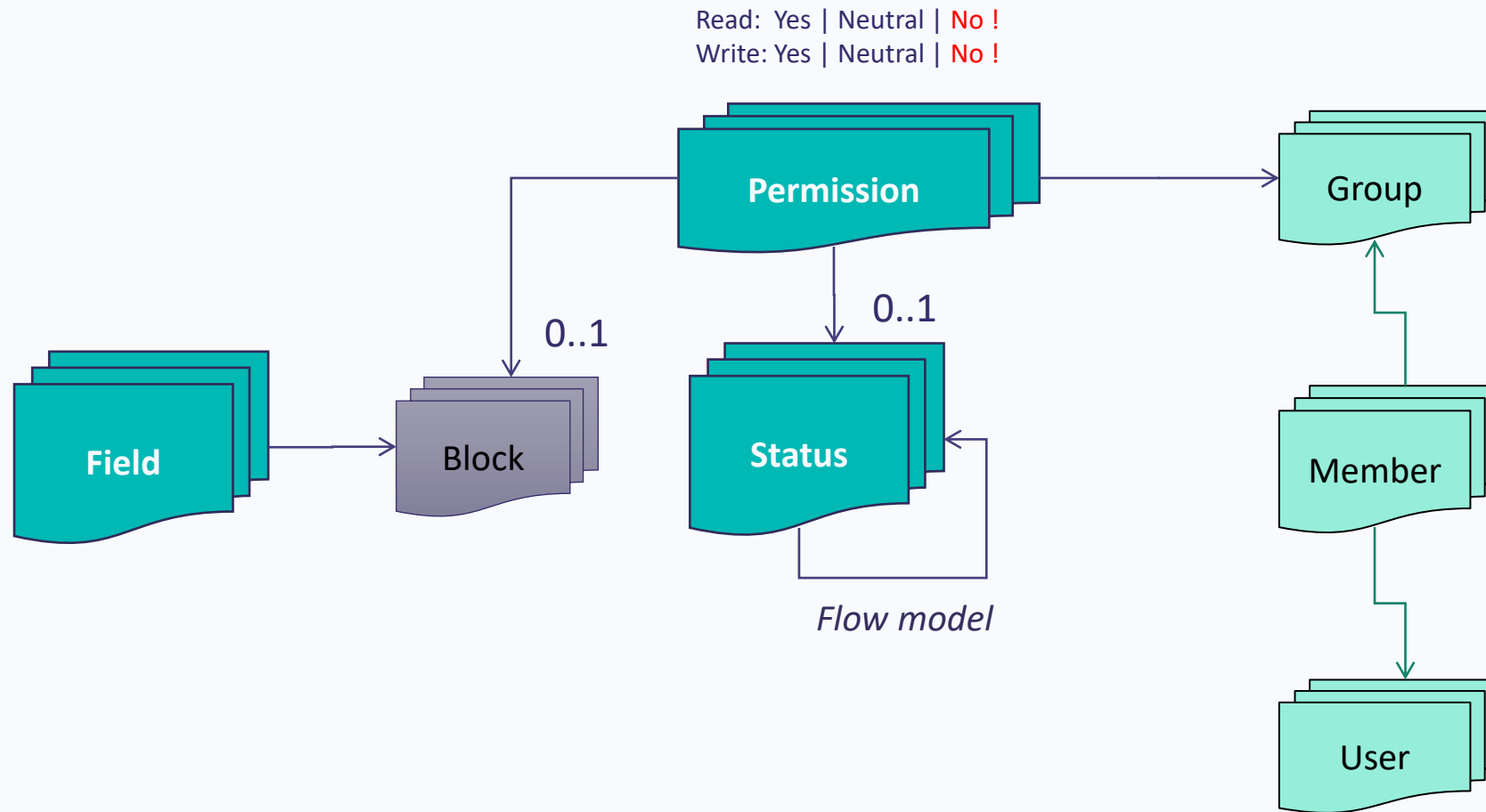
Module 8 (20 min)

Module 8: Permissions

In this lesson you will:

- understand relations between users, fields, groups and entities in relation to datamodels and workflows

- have been introduced to swimlane diagrams

At the end of this lesson you should be able to:

- use proper tools to collect data from users

M8: Model overview

M8: Data ownership

Security	Filters	☐ Use **Exclusive group** for access control
		☐ Use **Lists of users** for each item
		☐ Use **Lists of groups** for each item
		☐ Use **Creator only** restriction (ignore group recommended)
	Inheritance	[▼] parent solution
		[▼] field pointer
	Ignore	[None ▼] (will ignore all filters)

M8: Exercise

In this Exercise you will:

- Restrict access in your Company car solution

  - Prevent display if the car is sold

  - Prevent display of the pictures if car is being repaired
    - Hint: Create block, assign blocks, create permissions

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Design and Best Practices

Module 9 (30 min)

# M9: Design and Best Practices
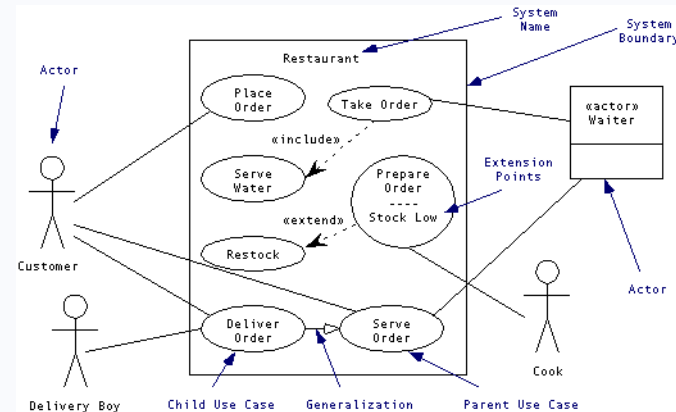
In this lesson you will:

- be able to drive a process to specify and design systems
- work with actor and use cases, object case run and state diagrams

At the end of this lesson you should be able to:

- use proper tools to collect data from users
- draw proper diagrams

M9: Modelling

- Usecases
  - Actors
  - Collaborations
  - Refinement
- Class diagram
- State diagrams
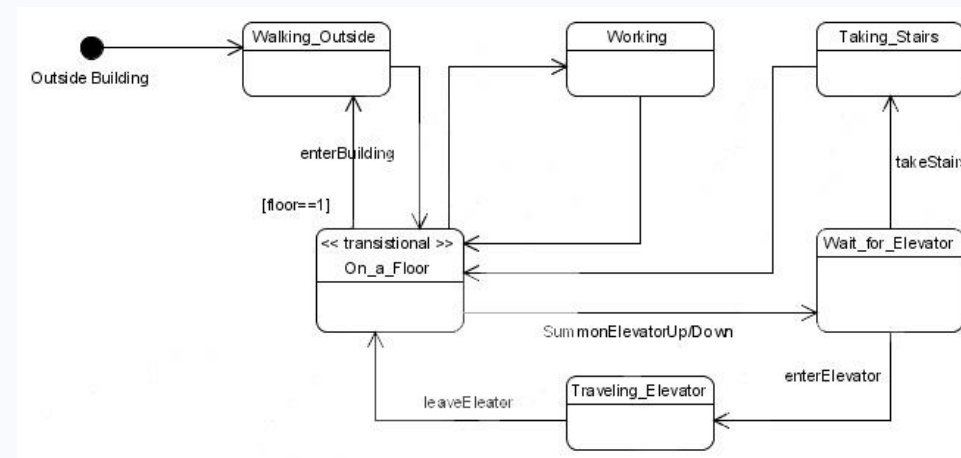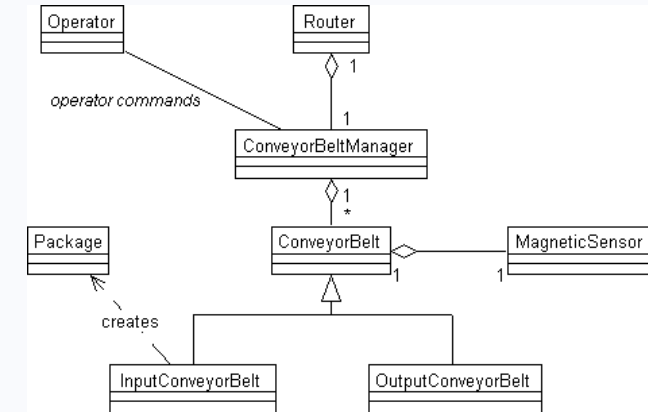
M9: Workshops

- Visualize on a board
  - UML models ar just fine ...
- Goals
  - Nice vs. need emphasis
  - Shared dictionary
- Tips
  - Idea parking lot
  - Pretend you are the object
  - Never and always
  - Extra attributes on many-to-many relations

M9: Exercise

In this Exercise you will:

- Use case diagram for a case

Build a Solution

Module 10 (90 min)

Module 10: Build a Solution

In this lesson you will:

- build a solution
- present and discuss designs

At the end of this lesson you should be able to:

- Present and discuss your solution

Exercise

In this Exercise you will:

- Build your own solution