

Name:

Jane Smith

“For me, I would to...”:

I would like to improve efficiency and reduce errors in the meter replacement process

Background:

45 years old working 20 years for the same company, managing work orders for about 20 workers, no travelling, good communication skills

Job Title / Role:

Back office / team lead

Job Responsibilities (Main tasks and frequency):

- Oversee the process of generating work orders for water meter replacement
- Create work orders and assign the work orders to workers
- Do the meter replacement in the SAP system
- Do the error correction

Main Goals:

- I want to reduce the error rate in the meter replacement process
- I want to reduce the time needed in the meter replacement process

Needs:

- I need to reduce effort in the meter replacement process
- I need to decrease errors leading from the process

Pain Points:

- having to deal with several transactions (change work order, device replacement)
- -missing connection between work order and device replacement transactions

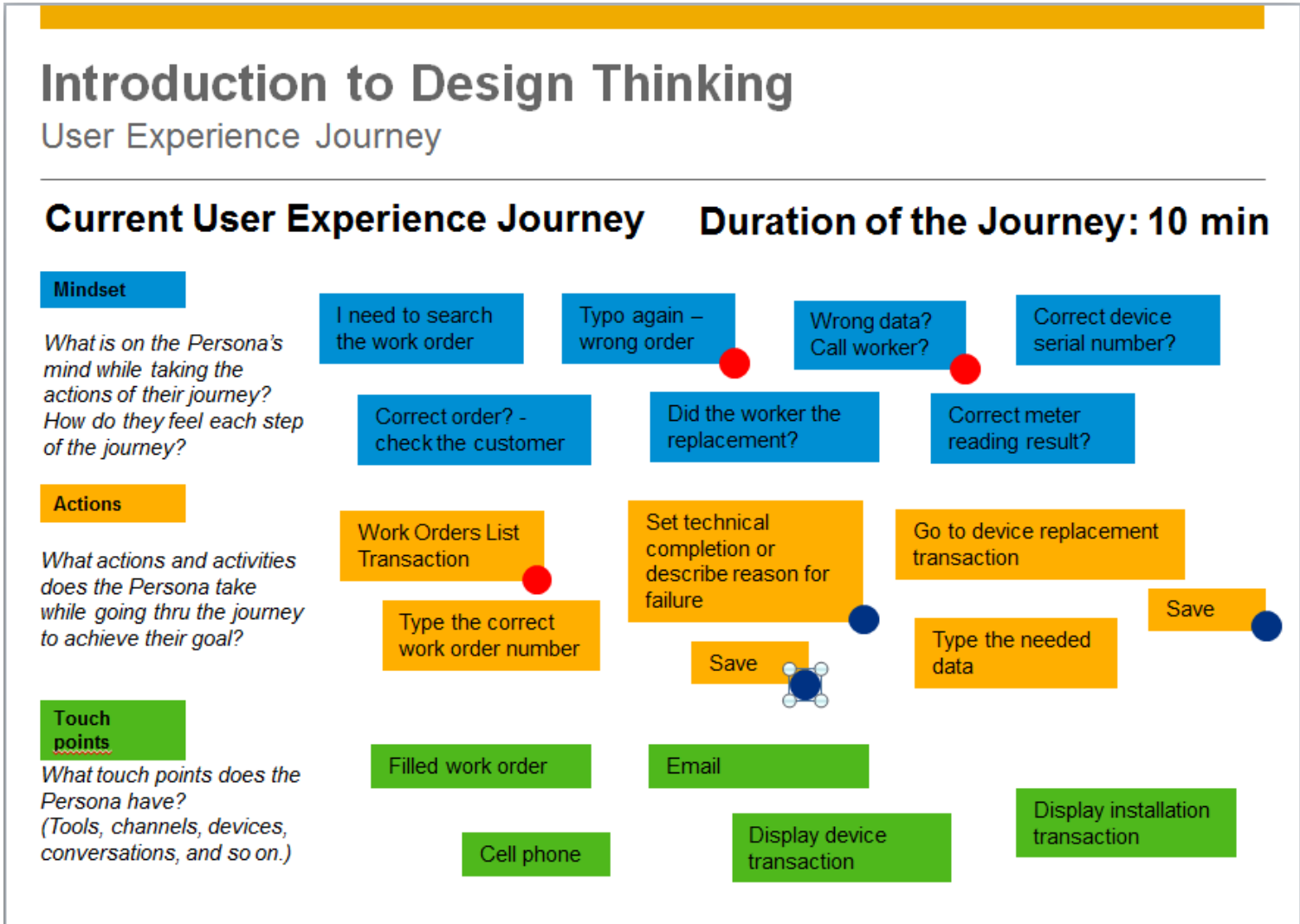
Stakeholders:

- Back Office
- Front Office
- Workers
- Client

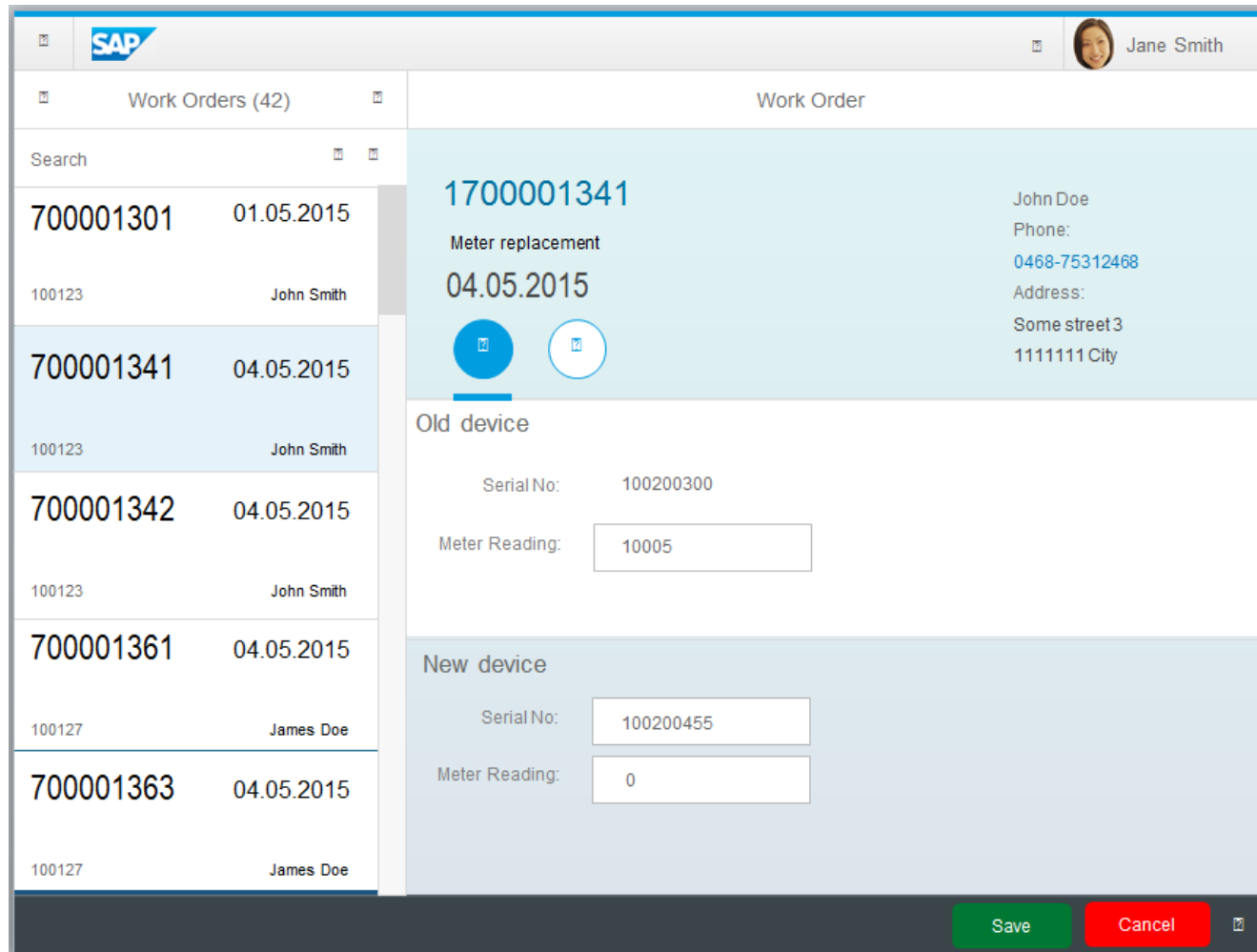
Competencies:

- I am a power user with my abilities needed in the error correction process
- I am not proactive or reactive. I suggest changes in the process mostly on the basis of errors
- I work together with the the members of the back office, the workers and occasionally I have to call the customers

3. User Experience



4. Mock up



The image shows a SAP Work Order Master/Detail application. The top bar features the SAP logo on the left and the user name 'Jane Smith' on the right. Below the top bar, the left pane is titled 'Work Orders (42)' and contains a search bar and a list of work orders. The right pane is titled 'Work Order' and displays details for the selected work order, including a large header with the work order number and date, a description, and contact information. Below this, there are sections for 'Old device' and 'New device', each with input fields for 'Serial No.' and 'Meter Reading'. At the bottom right, there are 'Save' and 'Cancel' buttons.

Work Order No.	Date	Worker Name	Personal Number
700001301	01.05.2015	John Smith	100123
700001341	04.05.2015	John Smith	100123
700001342	04.05.2015	John Smith	100123
700001361	04.05.2015	James Doe	100127
700001363	04.05.2015	James Doe	100127

Work Order Details:

1700001341
Meter replacement
04.05.2015

John Doe
Phone: 0468-75312468
Address: Some street 3
1111111 City

Old device

Serial No: 100200300
Meter Reading: 10005

New device

Serial No: 100200455
Meter Reading: 0

Save Cancel

- Master / Detail application. On the left side the list of work orders, with the corresponding dates and worker names and personal numbers. This is important for the selection of relevant work orders. On the right side the data for the meter replacement. The meter readings and the serial number of the new device are input fields.

The screenshot displays the SAP Work Order management interface. The top bar shows the SAP logo and the user Jane Smith. The main area is split into two panes. The left pane shows a list of work orders with columns for ID, date, and assigned person. The right pane shows the details for work order 1700001341, including the description 'Meter replacement', the date '04.05.2015', and contact information for John Doe. Below the details, there are sections for 'Reason for non completion' and 'Device Location' with input fields for text and GPS coordinates. At the bottom right, there are 'Save' and 'Cancel' buttons.

Work Order ID	Date	Assigned Person
700001301	01.05.2015	John Smith
700001341	04.05.2015	John Smith
700001342	04.05.2015	John Smith
700001361	04.05.2015	James Doe
700001363	04.05.2015	James Doe

Work Order Details: 1700001341

Description: Meter replacement
Date: 04.05.2015

Contact Information:
 Name: John Doe
 Phone: 0468-75312468
 Address: Some street 3, 1111111 City

Reason for non completion:
 Reason: Customer not present at location

Device Location:
 Place: garden
 GPS X / Y: 12345, 12345
 Place: On the right side of the entrance

Buttons: Save, Cancel

- The second screen contains the failure reason – sometimes the customers are not present at the location. This leads to costs which are later billed to the customer. As the water company delivers water to some garden areas, it is needed to describe the device location precisely. A worker describes this location on the printed paper as a note.





5. App prototype

- For the prototype I have created a sample data model (work_order_01.edmx).

```
work_order_01.edmx *
1 |<edmx:Edmx Version="1.0" xmlns:edmx="http://schemas.microsoft.com/ado/2007/06/edmx" xmlns:m="http://schemas.microsoft.com/ado/2008/09/edm"
2 |  xmlns:sap="http://www.sap.com/Protocols/SAPData">
3 |   <edmx:DataServices m:DataServiceVersion="2.0">
4 |     <Schema Namespace="WORKORDERXX" xml:lang="en"
5 |       xmlns="http://schemas.microsoft.com/ado/2008/09/edm">
6 |       <EntityType Name="WOHeader" sap:content-version="1">
7 |         <Key>
8 |           <PropertyRef Name="order_no"/>
9 |         </Key>
10 |        <Property Name="order_no" Type="Edm.String" Nullable="false" MaxLength="10" sap:label="Work Order"/>
11 |        <Property Name="order_type" Type="Edm.String" MaxLength="4" sap:label="Work Order Type"/>
12 |        <Property Name="order_text" Type="Edm.String" MaxLength="4" sap:label="Work Order Text"/>
13 |        <Property Name="date" Type="Edm.DateTime" sap:label="Document Date"/>
14 |        <Property Name="pernr" Type="Edm.String" MaxLength="8" sap:label="Pers. No."/>
15 |        <Property Name="name" Type="Edm.String" MaxLength="20" sap:label="Name"/>
16 |        <Property Name="cust_name" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
17 |        <Property Name="cust_adress" Type="Edm.String" MaxLength="50" sap:label="Customer Name"/>
18 |        <Property Name="cust_phone" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
19 |        <Property Name="serial_no_old" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
20 |        <Property Name="type_old" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
21 |        <Property Name="eqnr_old" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
22 |        <Property Name="serial_no_new" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
23 |        <Property Name="type_new" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
24 |        <Property Name="eqnr_new" Type="Edm.String" MaxLength="20" sap:label="Customer Name"/>
25 |      </EntityType>
26 |      <EntityContainer Name="WORKORDERXX" m:IsDefaultEntityContainer="true">
27 |        <EntitySet Name="WOHeaders" EntityType="WORKORDERXX.WOHeader" sap:content-version="1"/>
28 |      </EntityContainer>
29 |    </Schema>
30 |  </edmx:DataServices>
31 |</edmx:Edmx>
```

And the corresponding sample mock data:

```
Master.controller.js  Master.view.xml  WOHeader.json
[[
  {
    "order_no": "700001301",
    "order_type": "SM01",
    "order_text": "Meter replacement",
    "date": "/Date(1430431200000)/",
    "pernr": "100123",
    "name": "John Smith",
    "cust_name": "Jonathan White",
    "cust_adress": "Fake str. 123",
    "cust_phone": "123123123",
    "serial_no_old": "100200300",
    "type_old": "MN QN",
    "eqnr_old": "100123123"
  }, {
    "order_no": "700001341",
    "order_type": "SM01",
    "order_text": "Meter replacement",
    "date": "/Date(1430690400000)/",
    "pernr": "100123",
    "name": "John Smith",
    "cust_name": "Jim Brown",
    "cust_adress": "Fake str. 124",
    "cust_phone": "124124124",
    "serial_no_old": "100200301",
    "type_old": "MN QN",
    "eqnr_old": "100000931"
  }, {
    "order_no": "700001342",
    "order_type": "SM01",
    "order_text": "Meter replacement",
    "date": "/Date(1430690400000)/",
    "pernr": "100123"
  }
]]
```

Work Orders	Work Order
<input type="text" value="Search"/>	
700001301	
700001341	
700001342	<p>700001342</p> <p>Work Order</p> <p> </p>
700001361	<p>order_no: 700001342</p>
700001363	<p>order_text: Meter replacement</p>
	<p>date: Mon May 04 2015 00:00:00 GMT+0200 (Central Europe Daylight Time)</p> <p>Old Device: 200321 Device Type: MV 35</p>
	

Mock data is filled to the corresponding fields according to the binding. On the left side ist the list of the work orders, on the right side. Project is called design002.