

# OpenTele

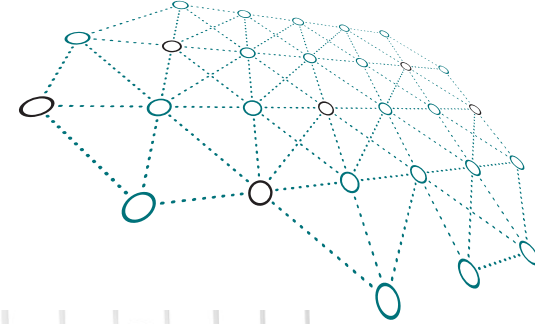
Versions 1.x & 2.x



**OpenTele**



STIFTELSEN FOR SOFTWAREBASEREDE SUNDHEDSSERVICES



# Om mig

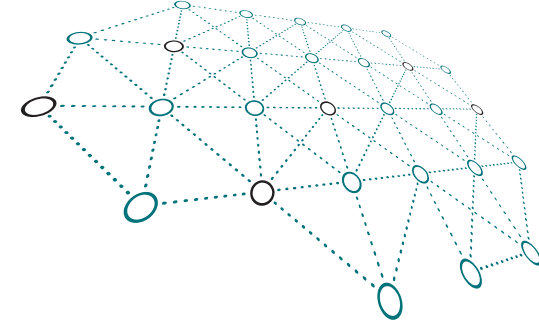
Mike Kristoffersen, software  
arkitekt og 4S OpenTele ansvarlig.

mike.kristoffersen@alexandra.dk

( <http://dk.linkedin.com/in/mikekristoffersen> )



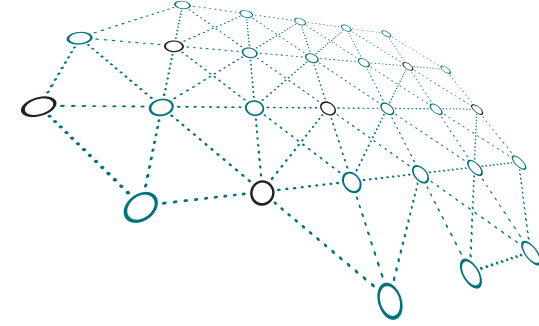
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# Min Baggrund

- +15 år i software branchen
- Udvikler, SW-arkitekt, team leader, teknisk projektleder
- Har boet og arbejdet i Korea
- Har arbejdet for Mozilla på Firefox projektet



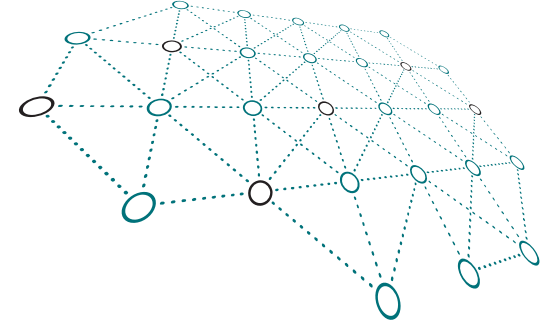


# Agenda – OpenTele 1.x og 2.x

- Hvad er OpenTele
- OpenTele 1.x
- OpenTele 2.x
- Transition fra 1.x til 2.x
- OpenTele på USB

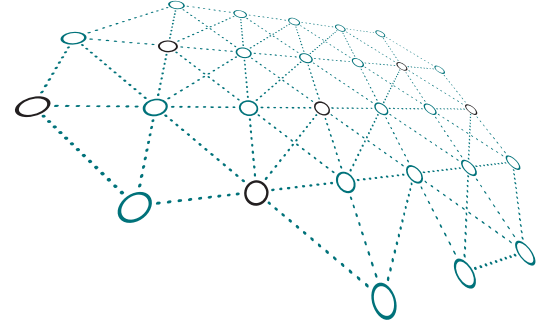






# Spørgsmål?





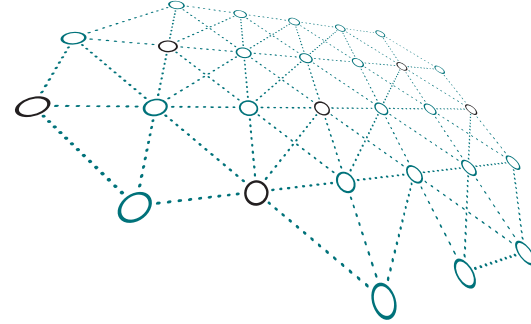
# Hvad er OpenTele?



**OpenTele**

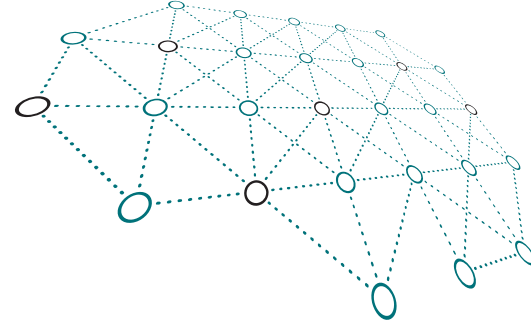


STIFTELSEN FOR SOFTWAREBASEREDE SUNDHEDSSERVICES



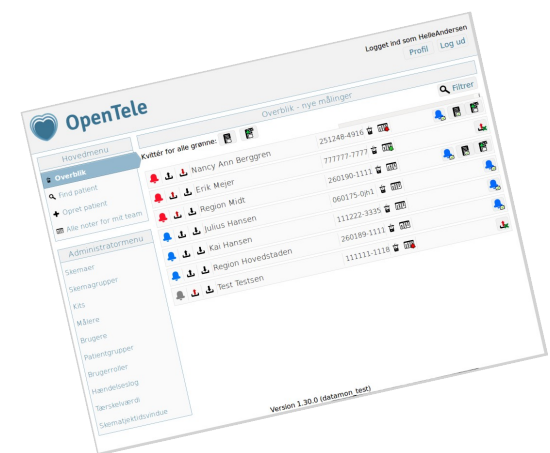
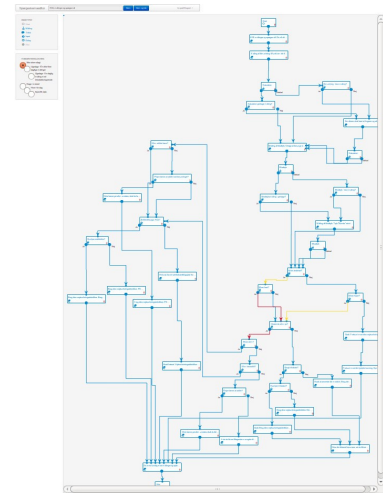
VS.

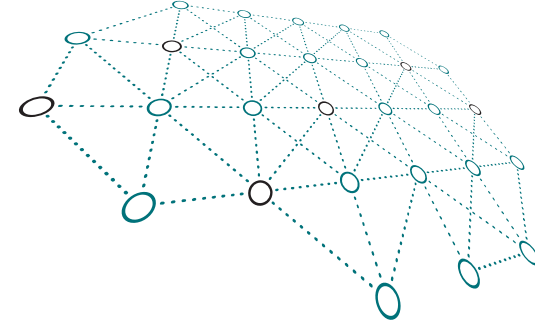




# Software der kan

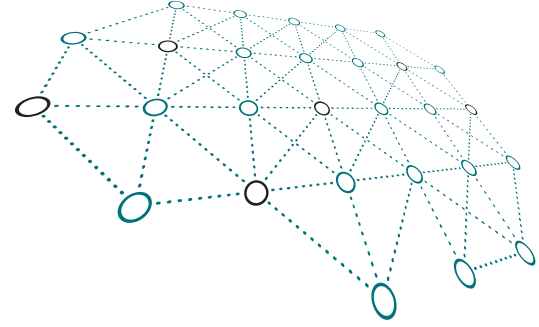
- Opsamle data fra borgere
- Hjælpe med overblik over data
- Kommunikere med borgere
- Give frihed til borgere





# Et TeleKit



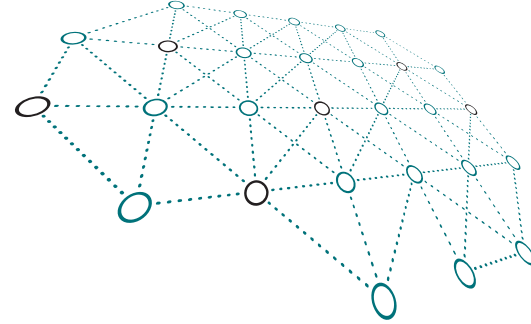


# Måleapparater

- Vægt
- Blodtryk
- SpO2
- Lunge funktion
- Osv.

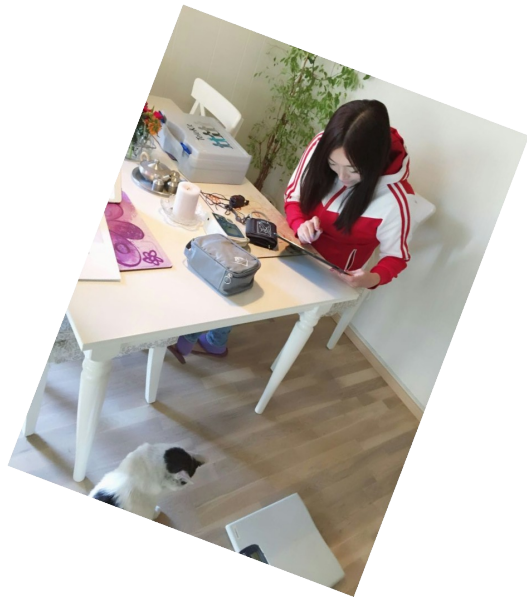


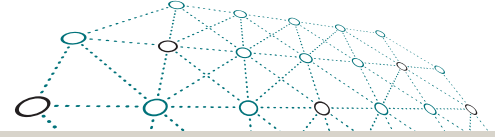




# Android applikation

- Besvarer spørgeskemaer
- Hjælp til at tage målinger
- Se historiske data
- Kommunikere med klinikere





# OpenTele

Brugernavn

Adgangskode

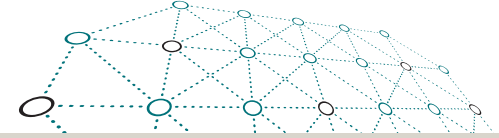
NancyAnn

Log ind

Ver.: 1.15.0 - url: http://10.0.2.2:8080/opentele-server - Video enabled: false







Nancy Ann Berggren

Log out

## Menu

**Perform measurement**

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**Messages**

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**Acknowledgements**

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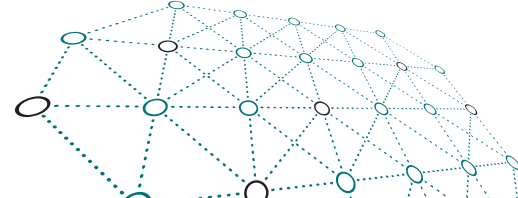
**My measurements**

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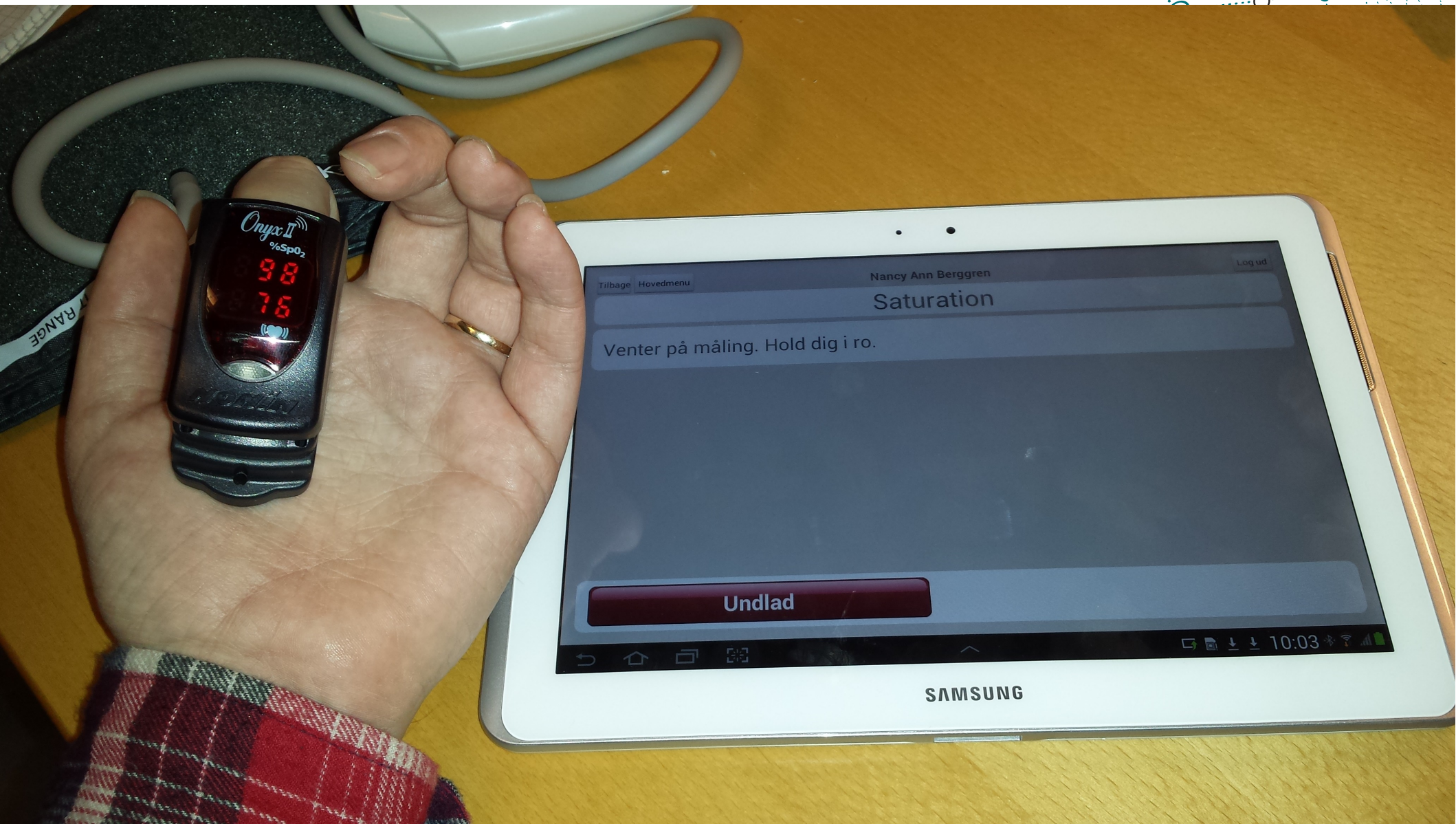
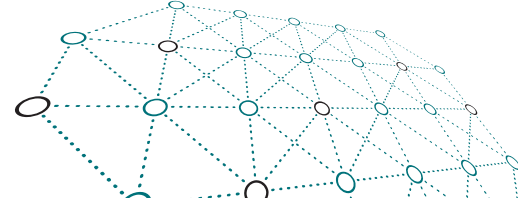
**Change password**



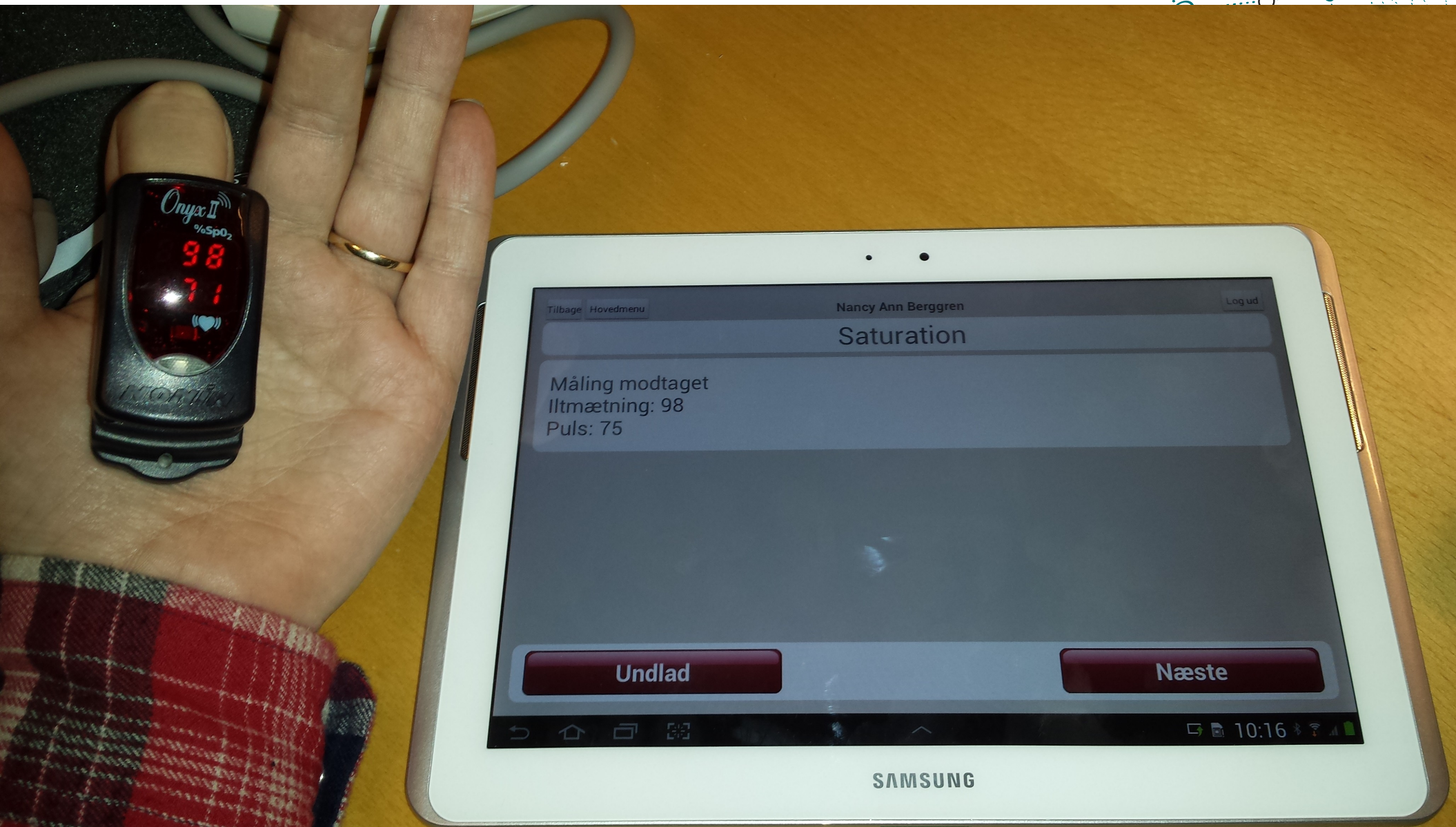
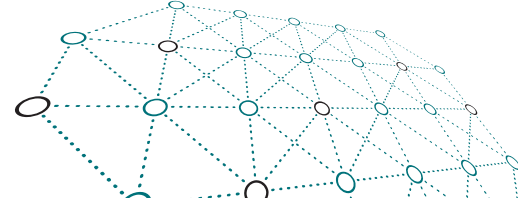
Saving screenshot...  
Screenshot is being saved

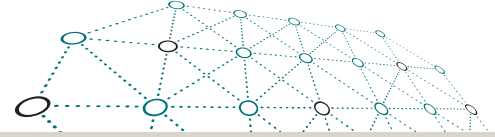












Tilbage

Hovedmenu

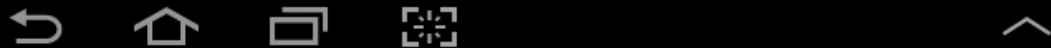
Nancy Ann Berggren

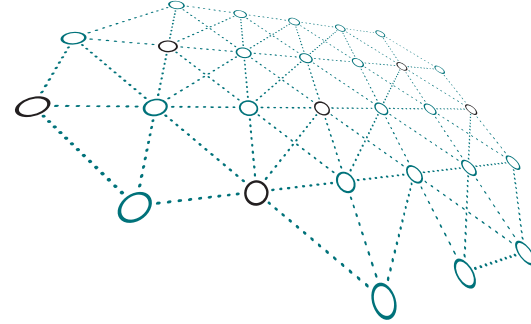
Log ud

Hvordan udførte du rejse-sætte sig testen?

- Uden brug af dine arme
- Hænderne på dine lår
- Hænderne på stolens armlæn

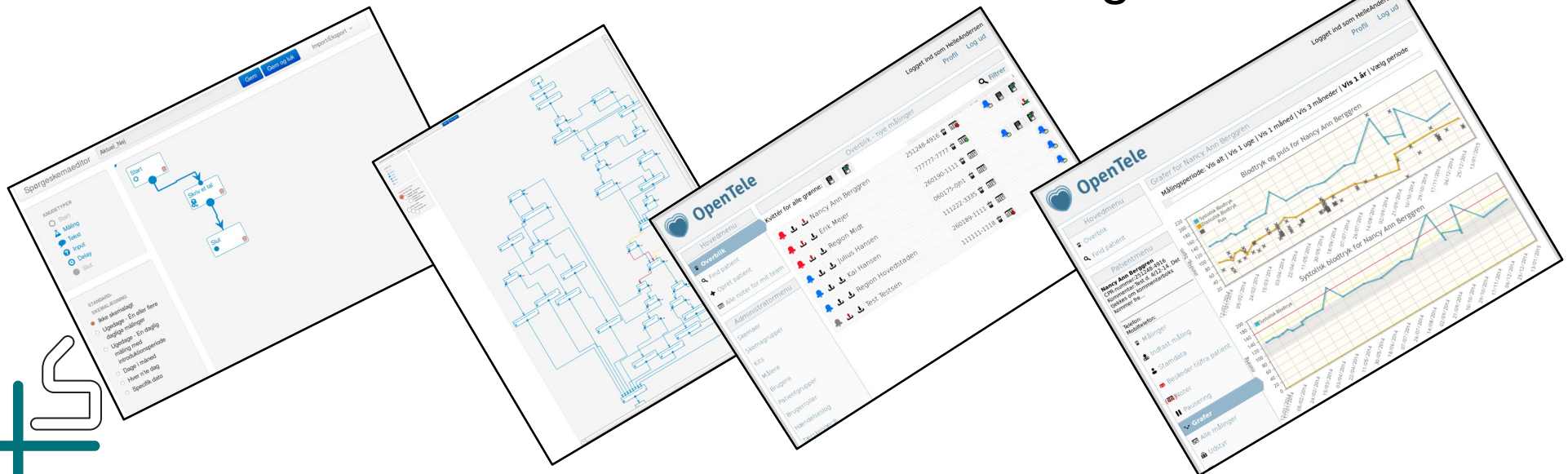
**Næste**





# Kliniker interfacet

- Oprette spørgeskemaer og grupper af spørgeskemaer
- Tildele spørgeskemaer (og grupper) til patienter
- Se målinger og spørgeskema svar
- Se historik
- Besked funktion til kommunikation med borger





## Hovedmenu

**Overblik**

Find patient

+ Opret patient

Alle noter for mit team

## Administratormenu

Skemaer

Skemagrupper

Kits

Målere

Brugere

Patientgrupper

Brugerroller

Hændelseslog

Tærskelværdi

## Overblik - nye målinger

Kvitter for alle grønne:



Filtrer

			Nancy Ann Berggren	251248-4916					
			Erik Mejer	777777-7777					
			Region Midt	260190-1111					
			Julius Hansen	060175-0jh1					
			Kai Hansen	111222-3335					
			Region Hovedstaden	260189-1111					
			Test Testsen	111111-1118					

## Hovedmenu

 Overblik

 Find patient

## Patientmenu

**Nancy Ann Berggren**  
 CPR-nummer:251248-4916

 Telefon:  
 Mobiltelefon:

 **Målinger**
 Stamdata

 Beskeder til/fra patient

 Noter

 Pausering

 Grafer



 Alle målinger















 Udstyr

 Monitoreringsplan

## Målinger fra Nancy Ann Berggren

 Målingsperiode: Vis alt | Vis 1 uge | **Vis 1 måned** | Vis 3 måneder | Vis 1 år | Vælg periode

 Kvitter for alle grønne:  

Spørgsmål	02/02 19:00	02/02 19:00	02/02 19:00	02/02 19:00	0
Vælg...		   	   	   	
Blodtryk (mmHg)	130/65				
Svar Ja eller Nej..			Ja		
Har du det godt?				Nej	
Vægt (Kg)				80,0	
Indtast årsag				▲ Spiste for meget chokolade i	
Indtast antal minutter CTG målingen skal CTG (m/tid) (CTG)		5			
Blodtryk/puls (mmHg/bpm)					
Blodsukker (mmol/L)					

 Gem Foretrukne Felter



## Hovedmenu

Overblik

Find patient

## Patientmenu

### Nancy Ann Berggren

CPR-nummer:251248-4916

Kommentar:Test d. 4/12-14. Det tjekkes om kommentarboks kommer fre...

Telefon:

Mobiltelefon:

Målinger

Indtast måling

Stamdata

Beskeder til/fra patient

Noter

Pausering

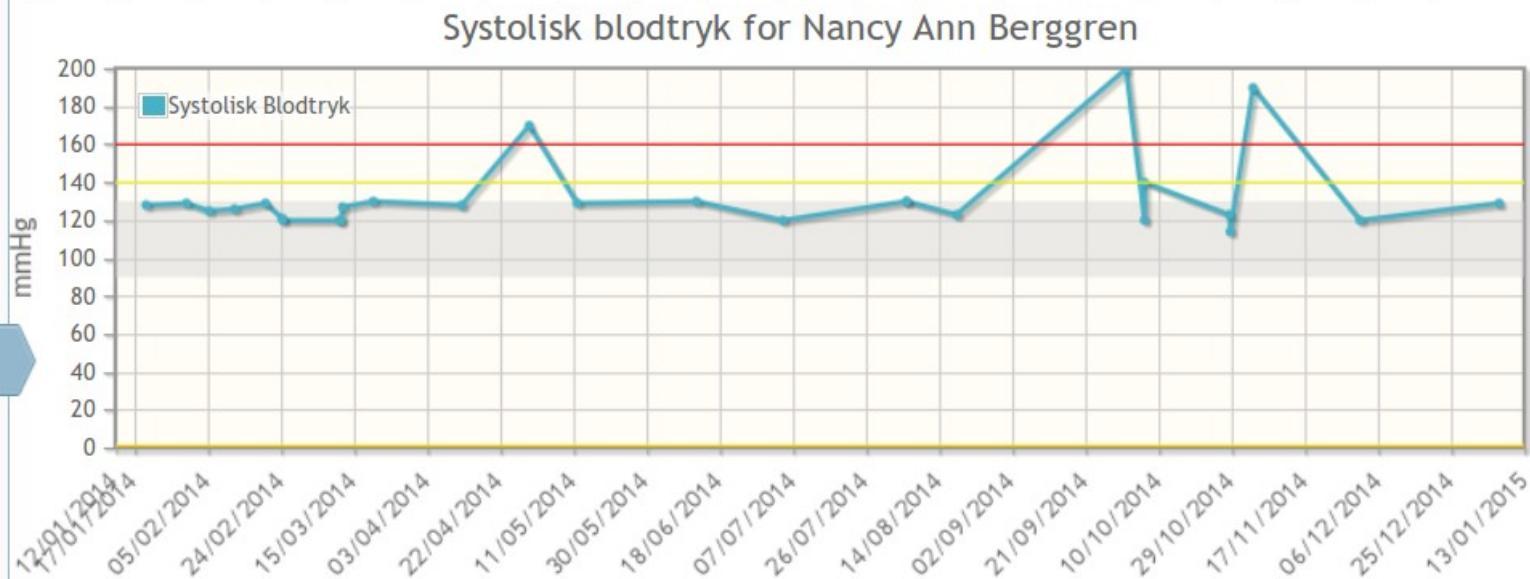
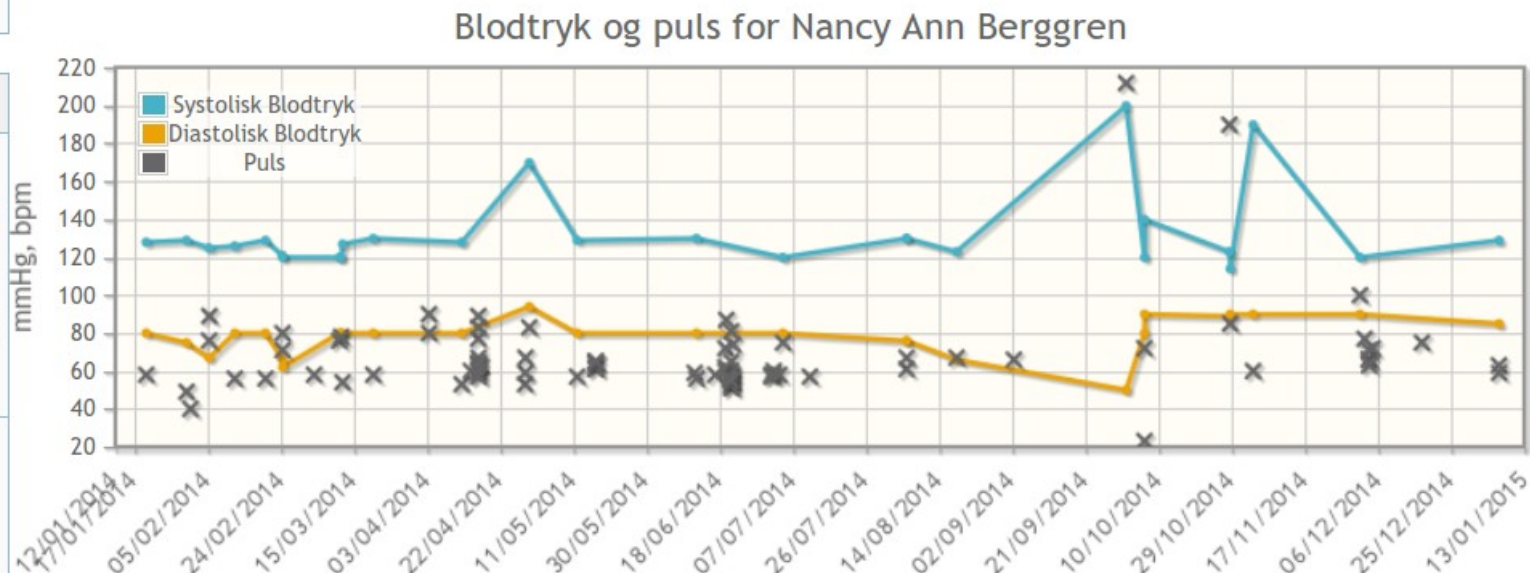
**Grafer**

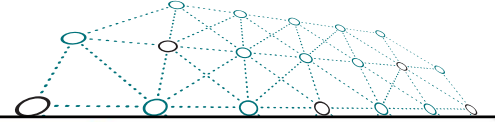
Alle målinger

Udstyr

## Grafer for Nancy Ann Berggren

Målingsperiode: Vis alt | Vis 1 uge | Vis 1 måned | Vis 3 måneder | **Vis 1 år** | Vælg periode



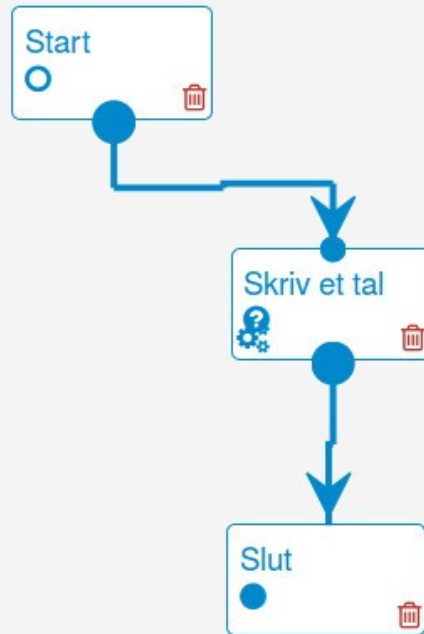


KNUDETYPEN

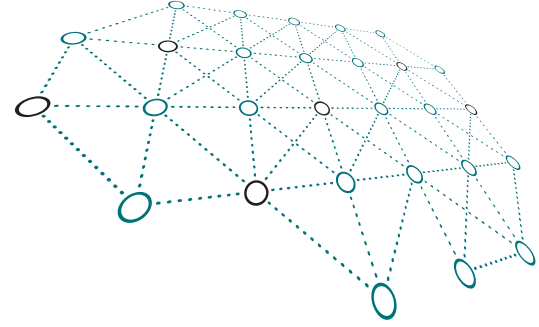
- Start
- Måling
- Tekst
- Input
- Delay
- Slut

STANDARD-SKEMALÆGNING

- Ikke skemalagt
- Ugedage - Én eller flere daglige målinger
- Ugedage - En daglig måling med introduktionsperiode
- Dage i måned
- Hver n'te dag
- Specifik dato

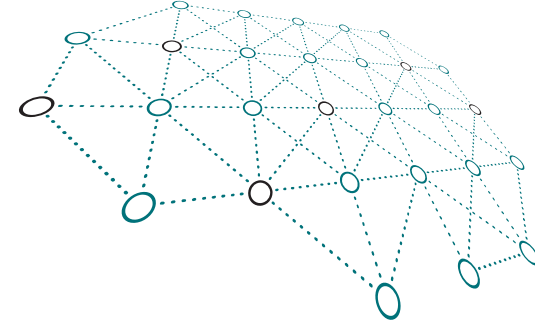




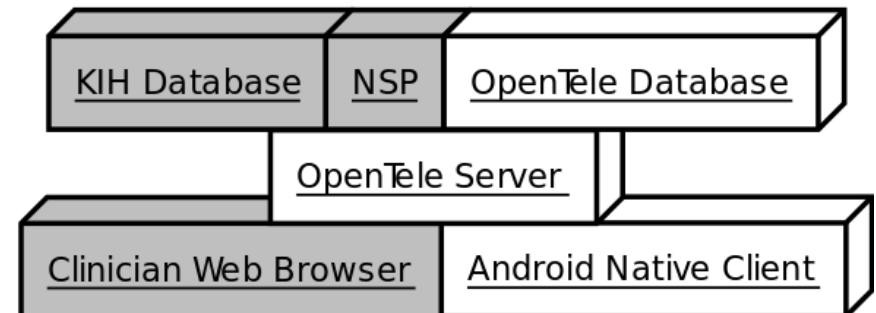


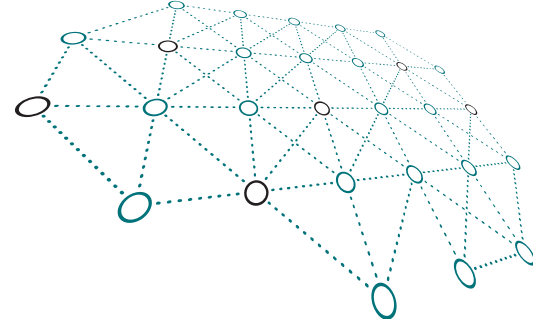
# Spørgsmål?





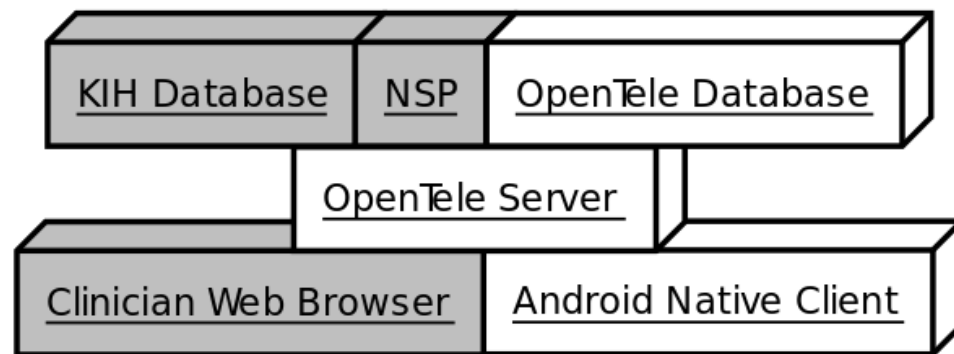
# OpenTele 1.x

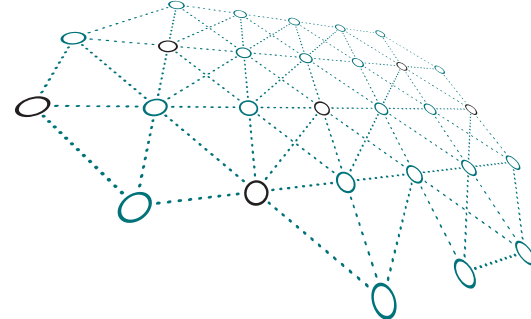




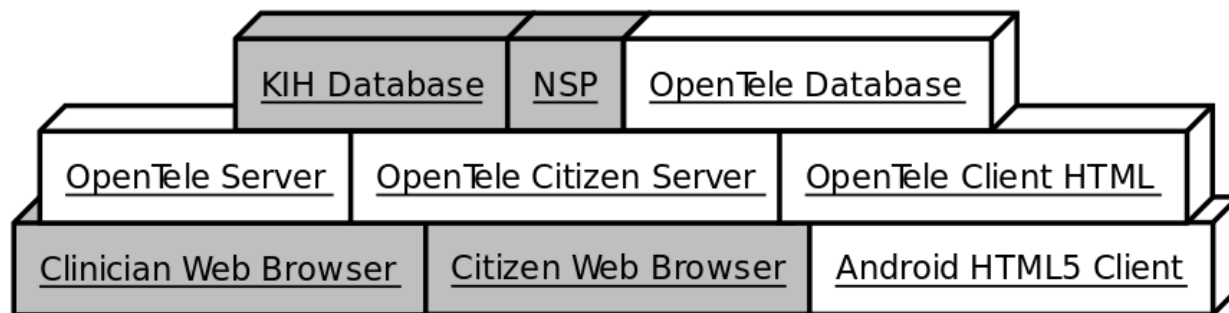
# Komponenter i OpenTele 1.x

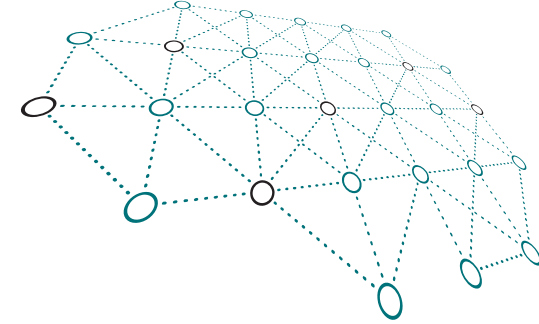
- SQL Database
- Én server
- Native (Java) Android Applikation





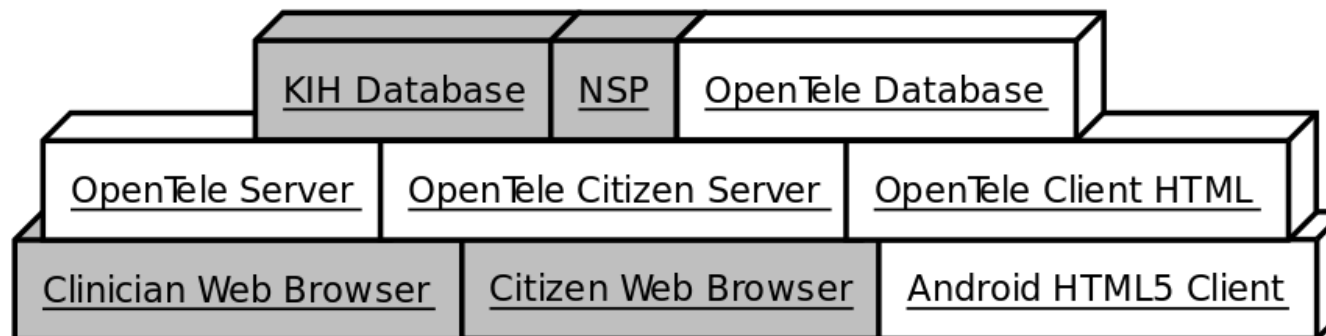
# OpenTele 2.x



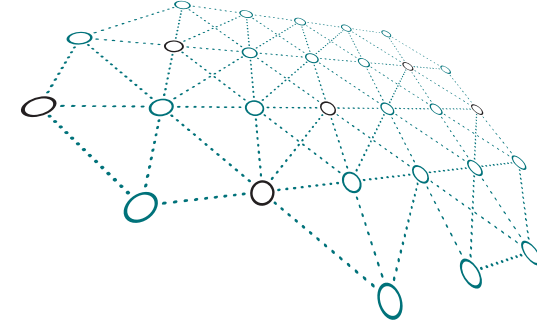
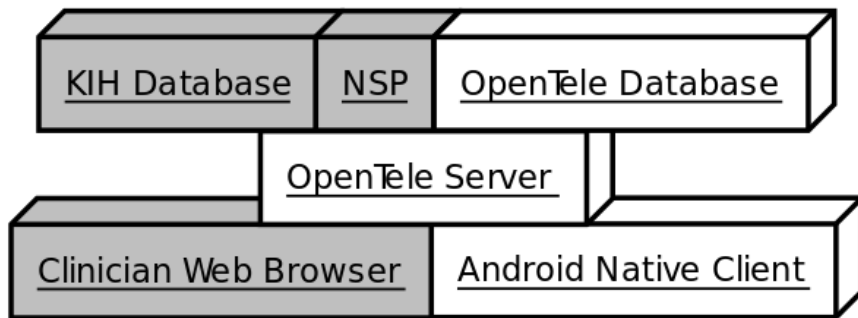


# Komponenter i OpenTele 2.x

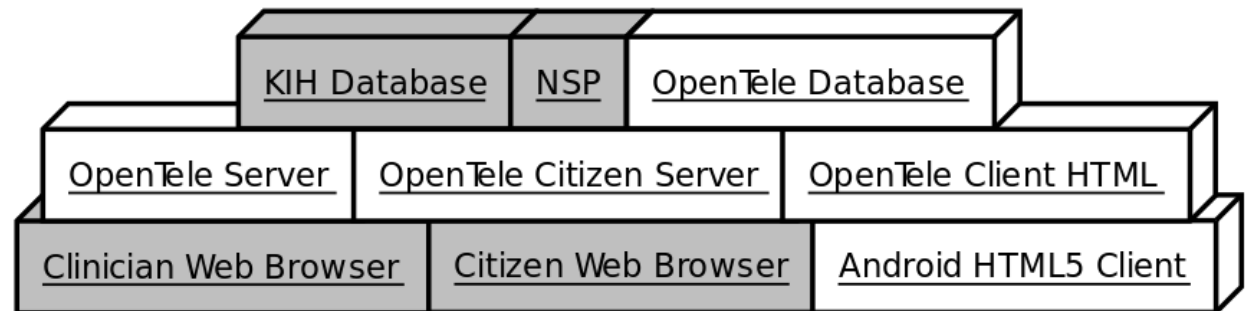
- SQL Database
- Tre servere (incl. én statisk)
- Mixed HTML5/Android Applikation

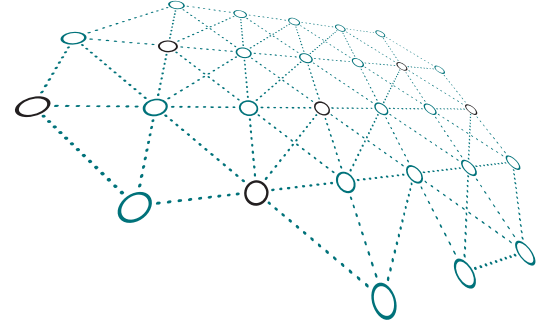






# Transition fra OT1 til OT2

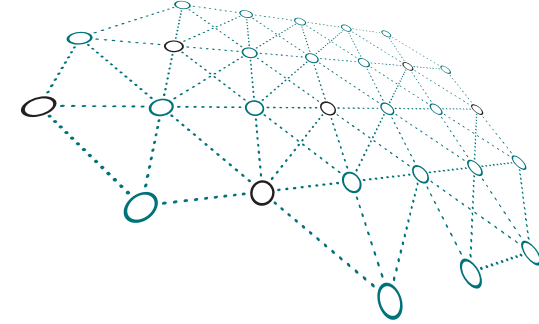




# Hvorfor skal alle over på OT2?

- De to udgaver udvikler sig forskelligt
- Ellers skal fejl findes og rettes to steder
- OT2 er mere modulært
- OT2 gør det lettere at komme ind på iOS
- OT2 er første skridt i at nå til OT3

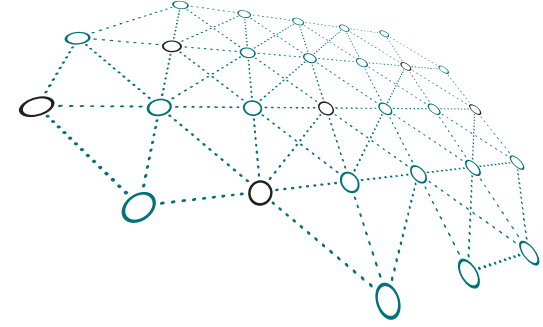




# Hvordan kommer alle over på OT2?

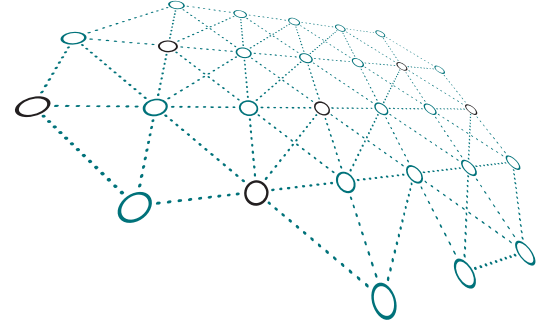
- Features og bugfixes overføres til OT2
- Det sikres at OT2 kan køre på OT1 hw
- Servere med OT2 sættes op
- Databaser porteres efter behov
- Test, test og test, gennem alle trin





# Spørgsmål?

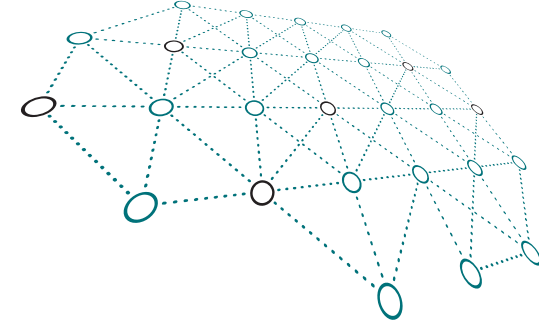




# OpenTele på USB

Et komplet environment





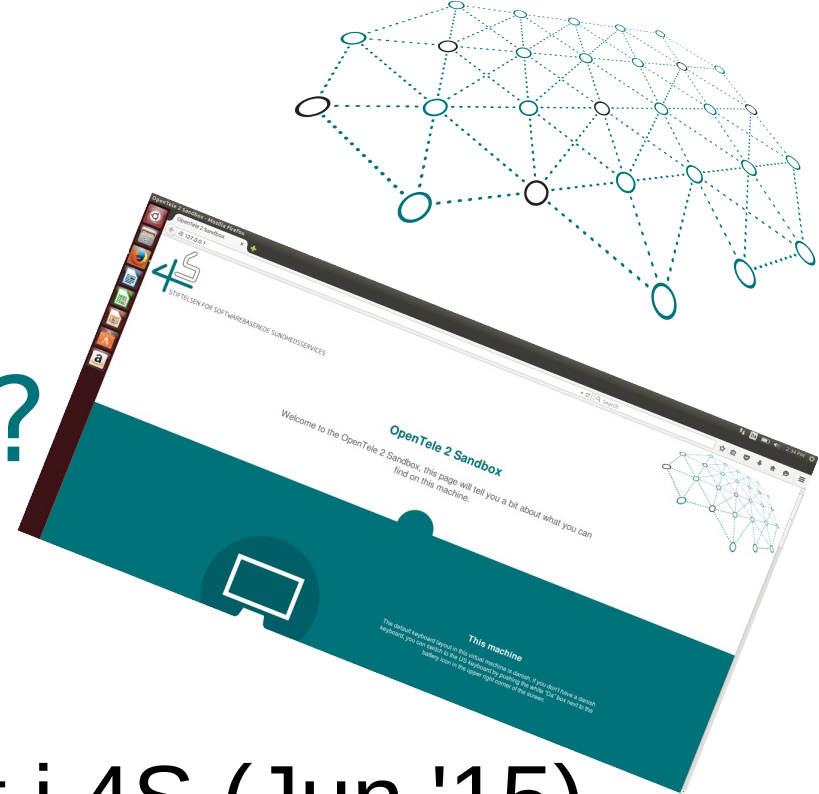
# Hvad ligger på USB'en

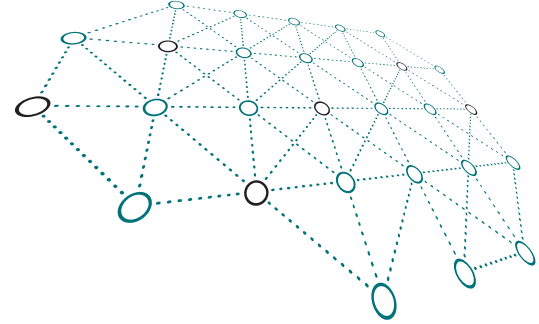
- En virtuel maskine (VM) med OpenTele
- VirtualBox installations filer
  - (Mac, Windows)
- Readme fil om netværksopsætning



# Hvad ligger i VM'en?

- Linux (Ubuntu) maskine
- Seneste OT2 kode optaget i 4S (Jun '15)
- Alle værktøjer der er nødvendige for at bygge er installeret og konfigureret
- Kørende Tomcat7 installation med kørende OT2 servere



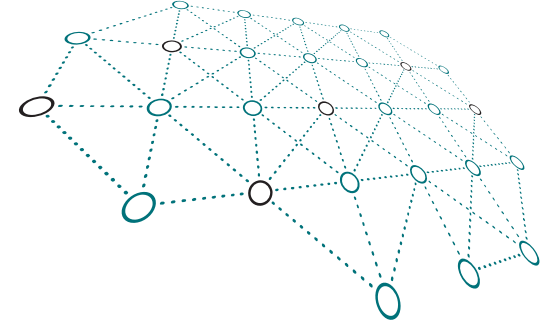


# OBS – omkring USB stick

- Sidste udgave hvor man kan bruge native Android klienten sammen med OT2 server.
- Hold øje med 4S, om hvornår den næste release er klar.
- Opentele-server/grails-app/conf/config.groovy har én linux specifik rettelse der ikke er en del af OT2

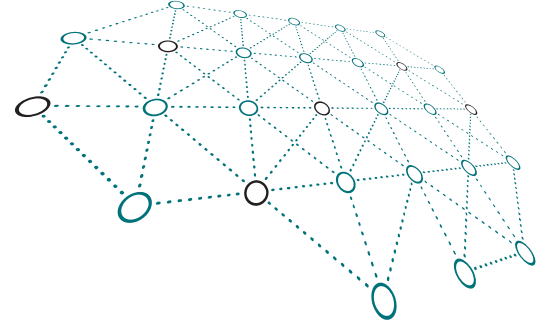






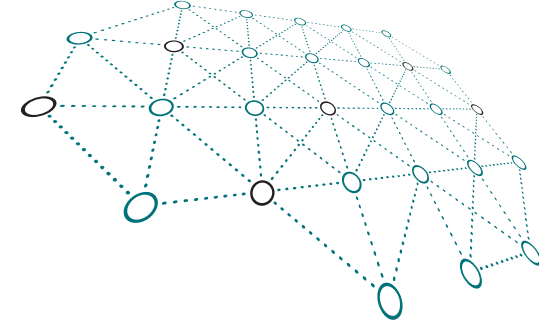
# Spørgsmål?





# Problems experienced with proprietary software

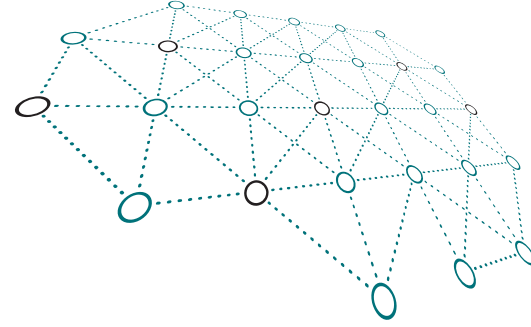




# Vendor lock-in

- Only one vendor
- Vendor decides road map
- Prohibitive expensive to change vendor

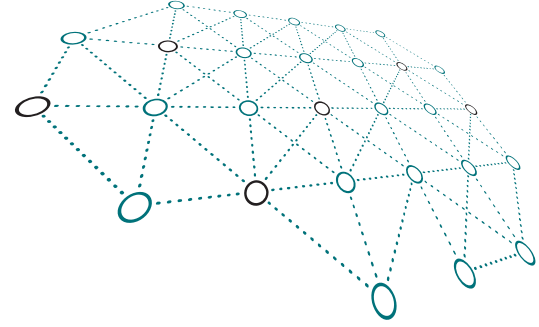




# Price

- Licenses can be a killer when scaling up
- Expensive maintenance

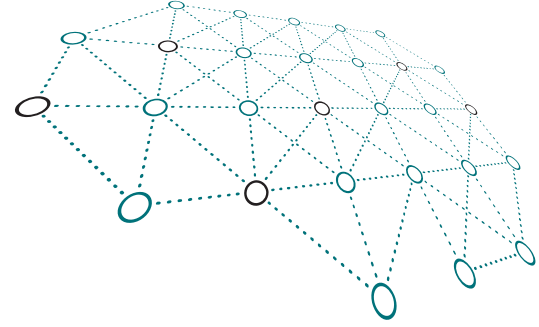




# Research issues

- Difficult or impossible to extend software in a research context
- Lack of documentation and/or access to databases





# Thank you



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