

Scalable, affordable and accurate vital signs measurements from a camera

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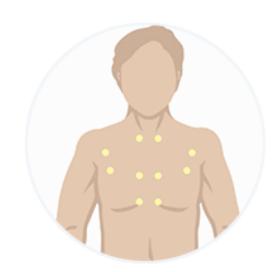
### VITACAM MEASURES VITALS USING COMPUTER VISION

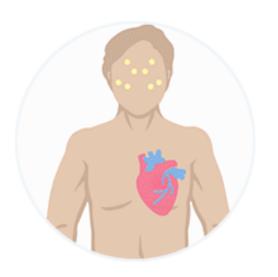
CE class Ila medical device



Digital video as input | Server processing

- ✓ Takes digital video as input from a smartphone or camera
- Not tied to specific devices more affordable than dedicated devices
- ✓ Captures Respiratory Rate using computer vision within 3 breaths per minute.
- Analyses chest movements to get the respiratory rate
- ✓ Captures Heart Rate pulse within 5 beats per minute
- Analyses changes in the subject's face colouring to obtain the heart rate
- ✓ Reports changes to responsible clinician and carer
- Simple interface to view changes







#### RESPIRATORY RATE NEEDED DURING ED TRIAGE

- Patient assessment is based on obs and vitals
- Respiratory rate is used as one component
- Few tools available to measure the RR, excluding manual counting which can be unreliable.
- Manual counting values skew strongly to a textbook estimate of 18-20 breaths instead of a normal distribution.

#### VITACAM WORKS AUTOMATICALLY IN THE BACKGROUND

- Vitacam is installed on a local server in hospital network
- Uses a Logitech Brio webcam
- Results are updated on the nurse's PC
- No data leaves the hospital

### **BENEFITS**

- Simple & easy to use, no need for manual counting
- Reduce physical contact and contamination risk





### TARGETING CARE HOMES & DOMICILLIARY CARE

- COVID-19 exposed the gaps in communication between elderly care and primary care
- ~3m elderly residents in Europe in 50k care homes
- An ageing population
- People over 85 account for 25% of all bed days (e.g. UK)

### A TRULY SCALABLE SYSTEM FOR AN UNMET NEED

- Video clips can be recorded from a dedicated app
- Vitacam securely processes the video on a public cloud server
- The data and trends are shown on a web dashboard.

### **BENEFITS**

- Overall efficiency gain to health system from daily monitoring: €20k per year per nursing home (SEHTA, UK study).
- Possible to record info digitally instead of paper and pen
- Improved communication between carers, elderly and GPs

## VITACAM CAN ALSO HELP CARE HOMES MONITOR ELDERLY

Collaboration with Oulu Welfare Labs

## INTERNAL LAB TESTING

## **REAL-WORLD TESTING**







**Focussed** 



Usability



Clinical

**OYS** Testlab

OYS pilot: co-creation and

clinical data

**Automated & manual** 

Testing use cases, performance and stress

IEC 62304, ISO 13485

Light & distance study Testing with different lights and distances

IEC 62366, ISO 13485

Kataja: Testing with care staff and elderly

Oulu Welfare Labs

IEC 62366, ISO 14971, GDPR

EU MDD/MDR, GDPR

Continuous

Continuous

In progress

First part completed

## MEDICAL DEVICE TESTING MUST INCLUDE REAL-WORLD

Oulu Welfare Labs & Testlab critical in testing

# Vitacam Triage in use



<u>Link to YouTube video on Vitacam Triage</u>

## **GET IN TOUCH**

### Where we're at

### Market making

- CE certification done.
- Direct sales channels built.
- Proven the technology & gaining credibility.

### **Growth: API volumes**

- Enhanced product with more vital signs: R&D needed.
- Scalable distribution.

### **NE Device SW Ltd.**

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