

MEASURE EEG EASILY

for EPILEPSY DIAGNOSES





Problem in developing countries



Making EEG data collection possible in remote areas



Diagnose epilepsy inexpensively

Get EEG data easily

Market

African countries with NO neurologists

1:5.000.000 Ratio of neurologist to ppl in 23 african countries

Market



67.83%

25.98%

2.85%

1.59%

0.59%

0.36%

SBS is one System







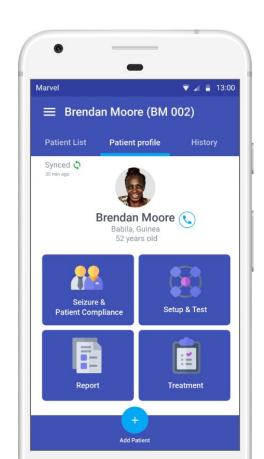
Use case(s)

MOBILE CLINICS

HEALTH CARE CENTERS



Digital assistance







Patient management



Test set up

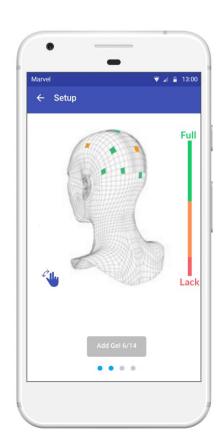


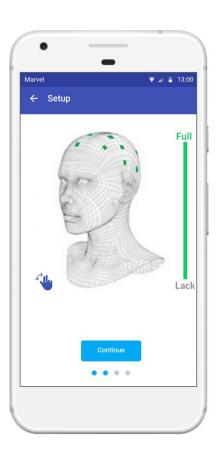
Test monitoring

Save time



With 3D visual cues during set up

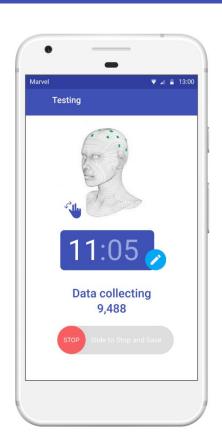


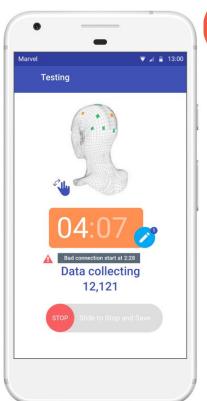


Reliant



Monitor,
Annotate &
Alarm for sensor
failure



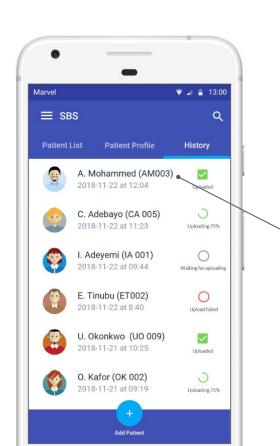




Organised



Overview of upload history

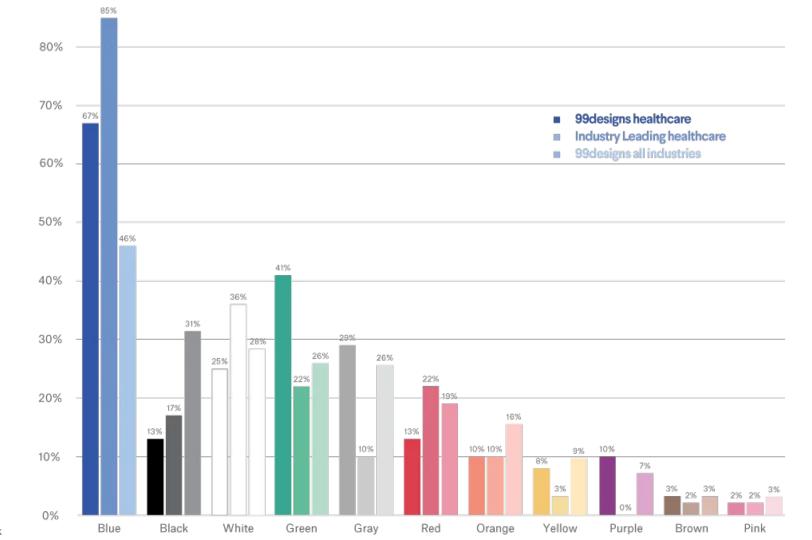


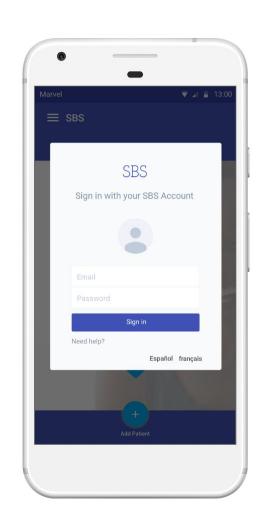
A M

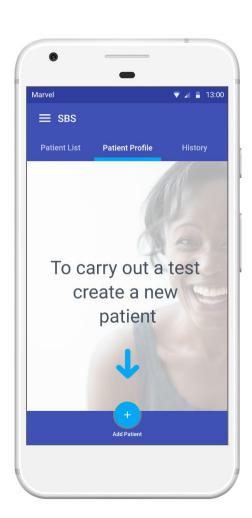
003
last 3 digit of phone number

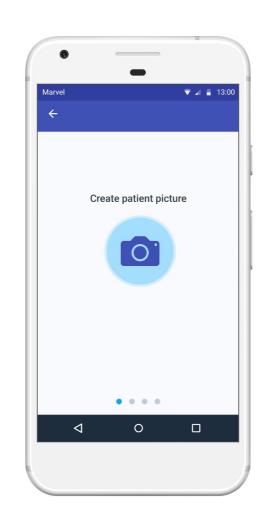
Colour:

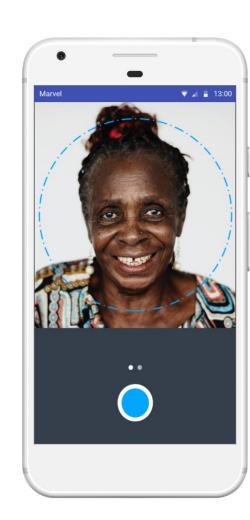
#303F9F	#C5CAE9	#3F51B5	#FFFFFF
DARK PRIMARY COLOR	LIGHT PRIMARY COLOR	PRIMARY COLOR	TEXT / ICONS
#03A9F4	#212121	#757575	#BDBDBD
ACCENT COLOR	PRIMARY TEXT	SECONDARY TEXT	DIVIDER COLOR

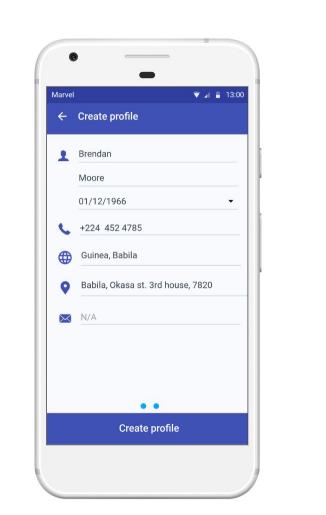


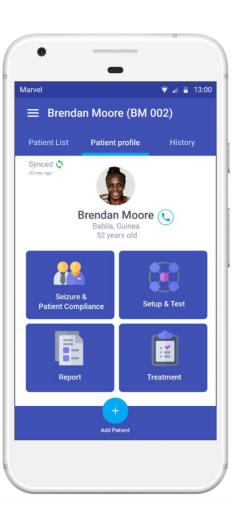


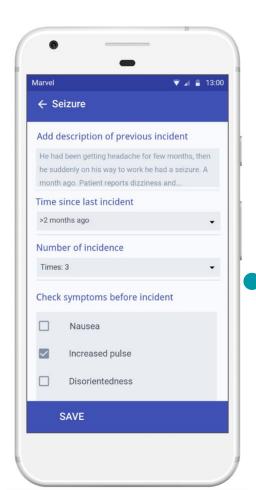




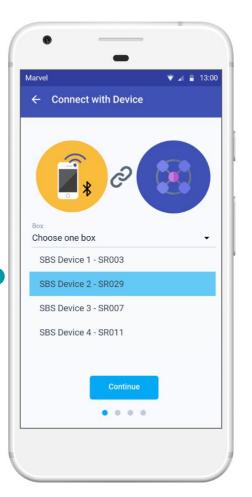


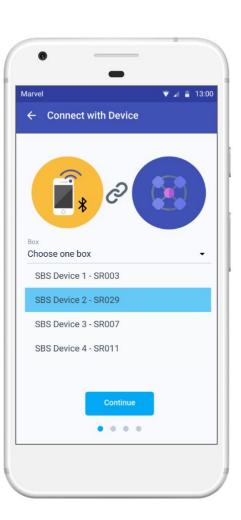


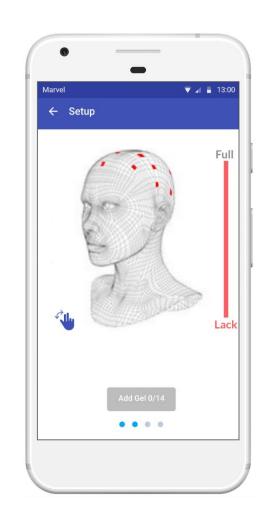


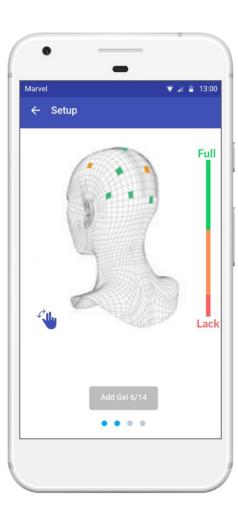


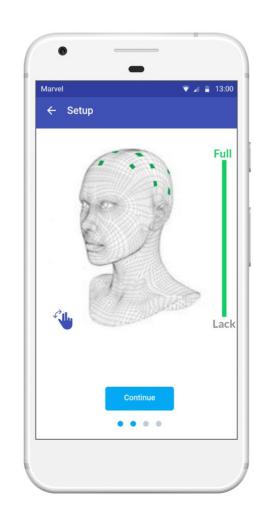




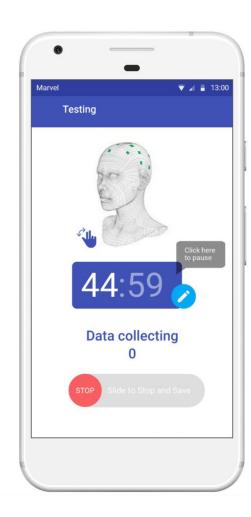


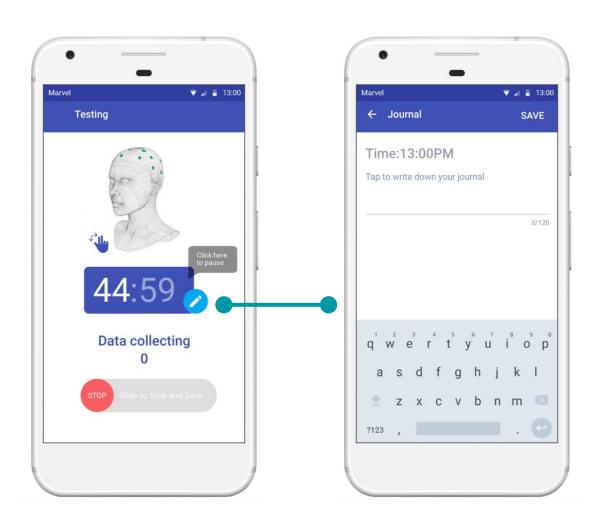


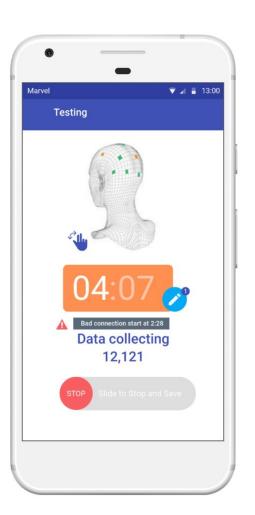




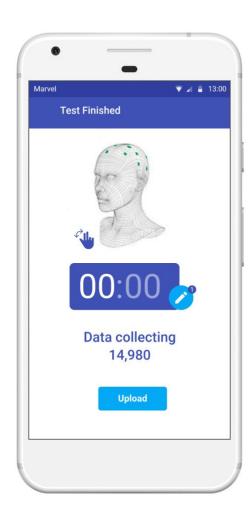


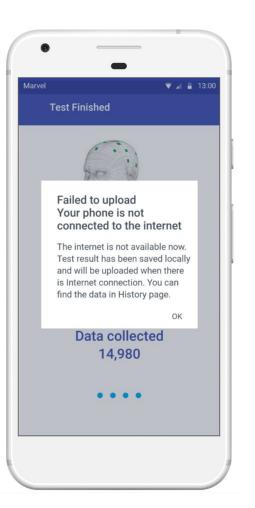








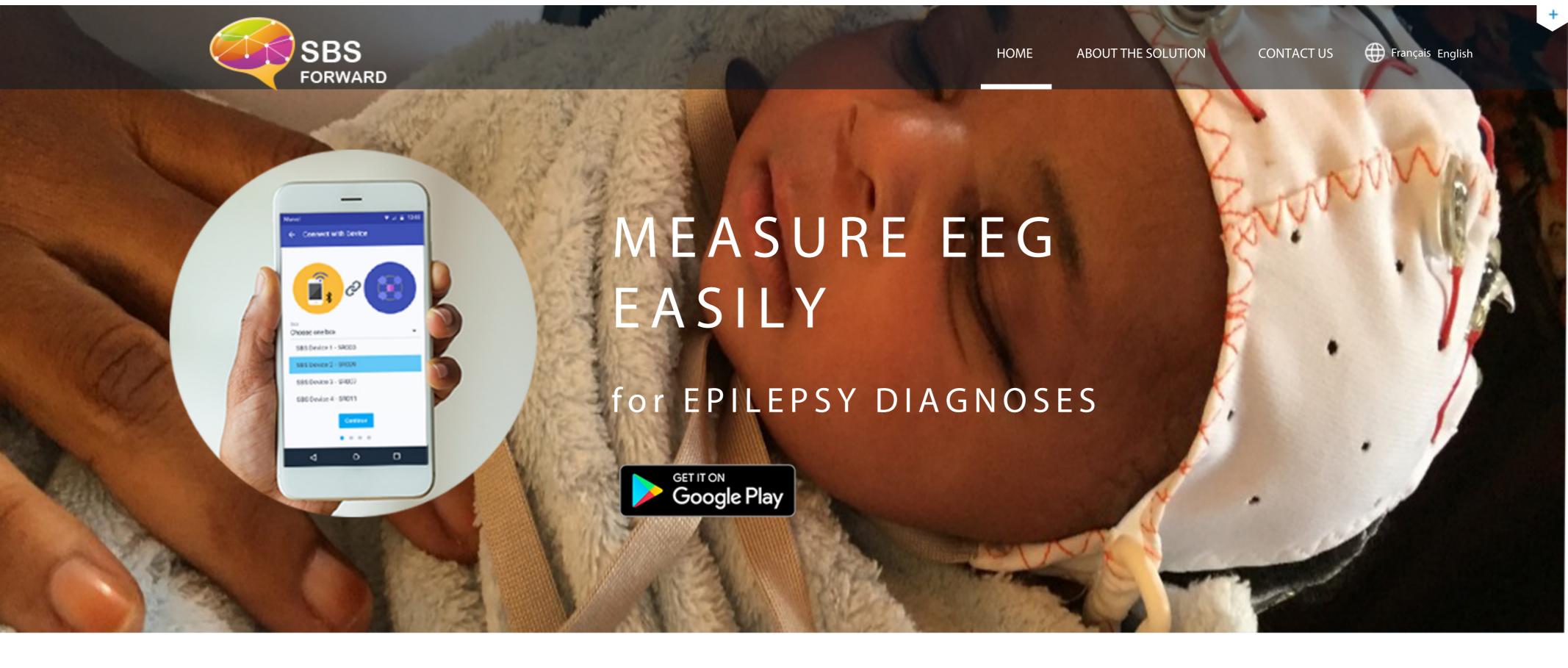






Group material

- 1. Landing page
- 2. Lean canvas
- 3. User story map
- 4. Annototed wireframe
- 5. Prototype link
- 6. Validation



Why SBS Forward is your choice?

of more than 40 million individuals with epilepsy, 80% live in developing countries where the vast majority does not receive appropriate treatment. With SBS, we can solve this problem together by early diagnosis!



Making EEG data collection possible in remote areas



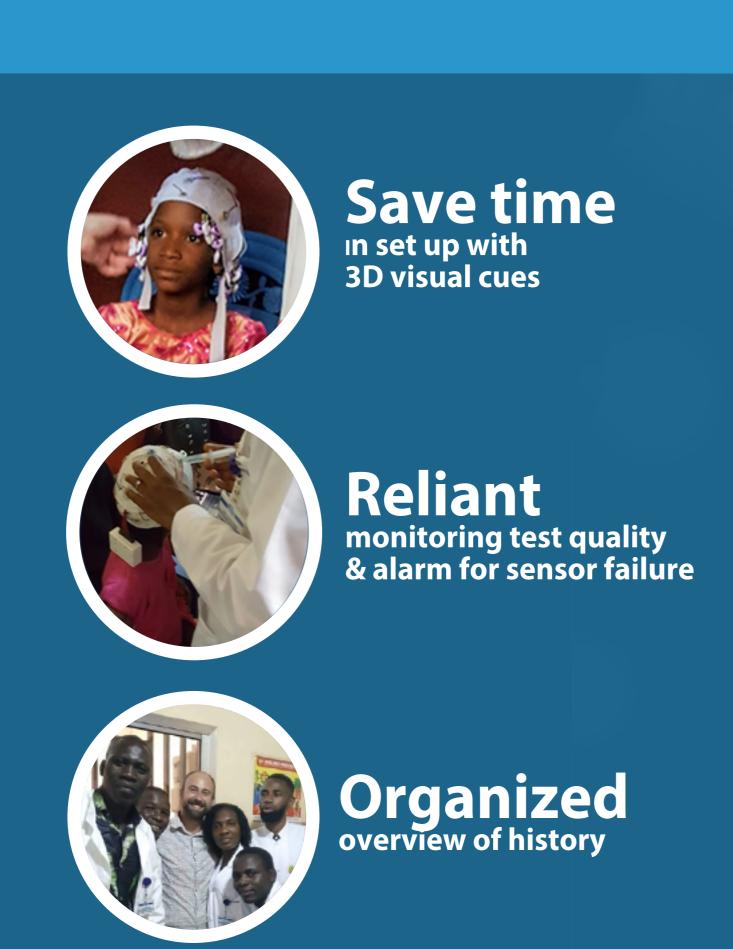
Diagnose epilepsy inexpensively

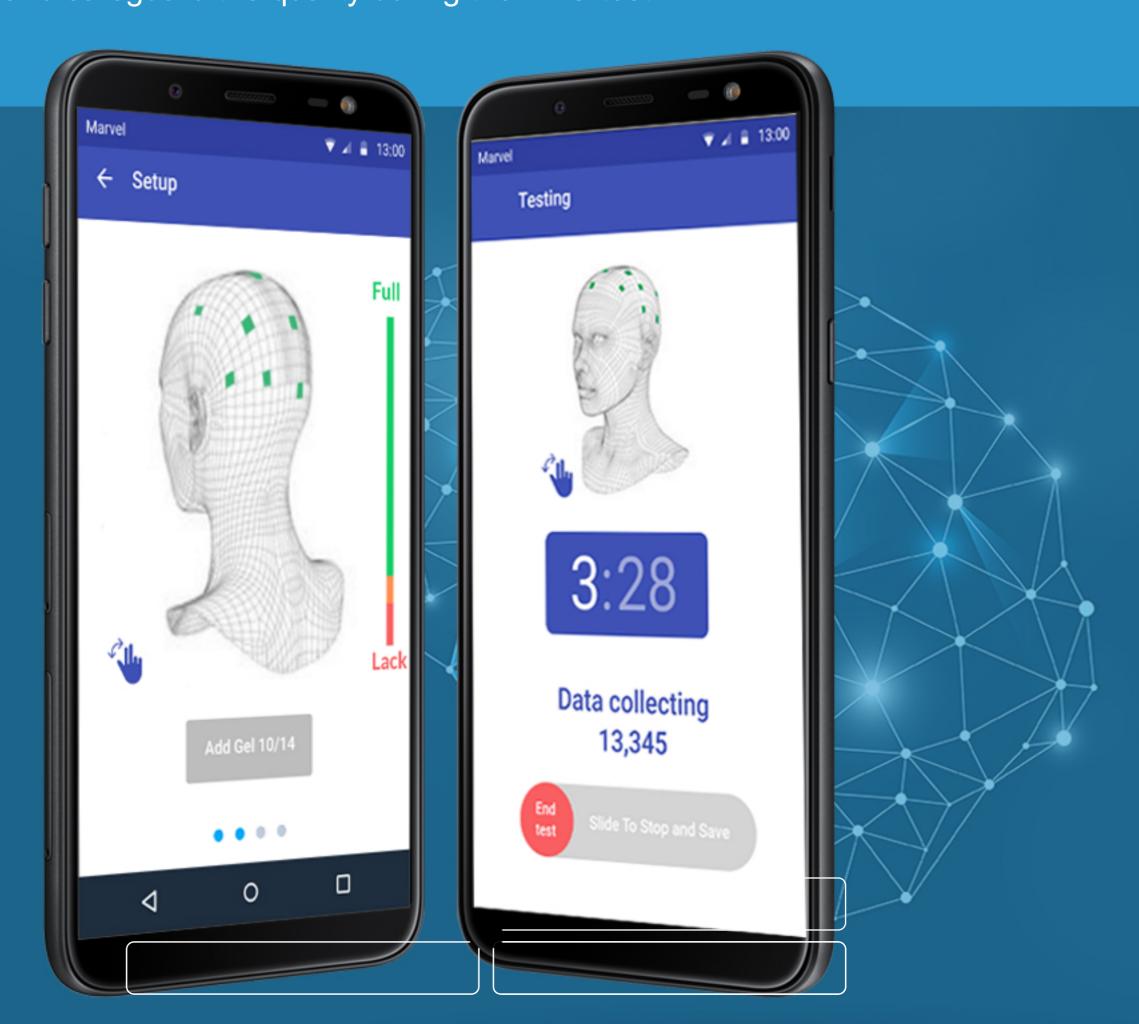


PATIENT MANAGEMENT TEST SET UP TEST MONITORING

Digital assistance for EEG data collection

SBS app provides you a place for centralized management of patient digital record It also monitors the measurment and safeguard the quality during the EEG test.





SBS TEAM 24

Lean Canvas

Problem

Diagnose epilepsy inexpensively

Hard to get people in developing areas tested for neurological disorders such as epilepsy's, no equipment and no trained staff to diagnose. Western countries however have free capacity to review cases, but no infrastructure supports this.

SBS EGG test Technology hasn't been portable previously

This makes the technology unavailable for large populations who doesn't live near urban health centers.

No APP GUI to support the SBS helmet dev. DTU

Need of an app to standardize the process, in a practical manner that allow tests to be executed and uploaded. And identification / contact data to the patient.

Solution

The SBS headgear

Transfer of EEG data from development countries to be reviewed online in countries with more neurologists. This from a cheap headgear that can discover 70 % of the epilepsy's cases, compared to expensive ones that may do 80-85%

A phone App – systemize the process

Help collect and upload the health and test data. Help annotates during test. Help to execute good setup

Channels

Android Phone device

Bluetooth

Connect the gear and the phone, to receive data.

Internet

Data uploaded and saved in cloud

Unique Value proposition

Systematic data collection

We propose a system that digitalizes all the data and makes sure the medical staff collect the data and uploads it. The structure allows patients to be aligned between medical institutions respectively in developed /-development countries. Each patient gets a unique ID based on their phone number, and this ID. This works to organize.

Reliant

A key feature in field work is that the system doesn't break down. SBS Forward works hard to notify the HCS if there is any error, so that he/she may fix it. It does this by visuals (colours) and audio. This overall works to ensure quality.

Saves time

This system eliminates physical papers and combines all the data online into one report that is sent to the data review either machine learning or professional neurologists.





QUALITY





SAVES TIME

Customer segments

Health care staff(HCS)

In rural areas and local cities, who carry out the tests.

Medical staff, nurses, doctors, paramedics, or foreign aid workers who might have limited medical experience, since they only need to record and upload.

The HCS is relatively well educated. The segment speaks French and sometimes but not always English. They are used to work with technology, and is most often experienced phone users that rely on their phone for communication, payment and a wide range of other needs.

The idea is that it should be possible to use the system with minimal training, however first time probably supervised.

SBS TEAM 24

User Story Map

User goal

Register patient and their complaints

Activities

Start to use the app

Create patient ID or search for existing patient

Collect medical incidences

Setup & Attachment process

Carry out the test

mistake

successfully without

Execute test

Transfer the test result to neurologist

Finalization &

upload

Tasks

Log in with specific ID

Check patient list

and history

If the patient is new: Take photo

Collect personal information: name. phone, mail, address and auto generate patient ID

If the patient already exists: search the patient and select

Record incidence of

seizures before or since last test

Record type and detail of the seizure

Record other diseases or relevant information

Set test time and Apply headgear to patient start test

Connect the headgear with the phone in the app

Check loose connections and adjust headgear, add gel if needed until the gear is ready to conduct the test

Accept results and annotated

Upload when phone has connection to the Internet

Pause the test if there is something need to be fixed. and continue after it is fixed

Annotate any

events during the

test that is relevant

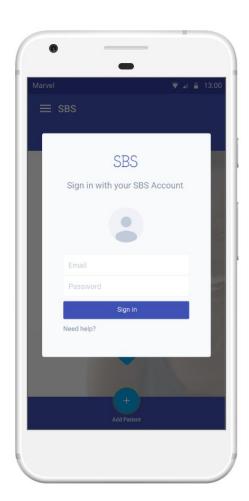
System notify doctor when there is a bad connection

System notify doctor when test is done



5. Prototype link

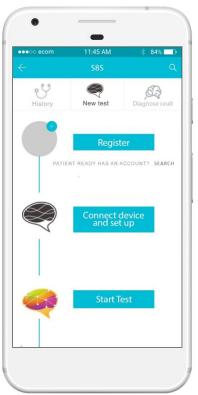
https://marvelapp.com/54ei193



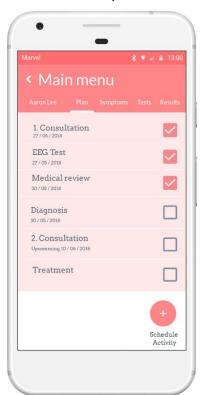
6. Validation with think aloud test

Landing page of 4 different versions





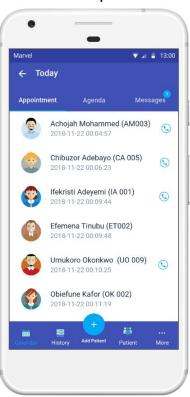
concept 2



concept 3



concept 4



6. Validation with think aloud test in week 11

Idea behind	Major Comment:
Concept 1: Land with overview of the testing process such that user can have a expectation of what to do during the whole process, slide bar at top	Have to go back and foruth to this page
Concept 2: Land with checkbox of steps to do, create new activities of check box if you want. slide bar at top	Activities is not distingishable, color is not assoicate to health care
Concept 3: After you login, you will see the testing history and the patient list which is the most important feature in this case. You can create new patient by clicking on the "Plus" button.	Dont not serve the goal of adding new patient clearly
Concept 4 You can choose different functions by clicking on different buttons on both upper and lower bars.	Too many unnecessary information and buttons, the user will get lost easily.

6. Validation in week 12



MIchael Holbech (SBS Stakeholder) 4:05 PM

Hej Maalthe,

det ser godt ud, et par kommentarer

Setup & test -> Setup & record EEG

Seizure : Vi ved ikke nok endnu om denne del, så jeres bud er lige så godt som vores

Report: Der vil nok kun være et simpelt preview, hvis der overhoved vil være noget dataview på mobilen

Setup: Det vil nok være bedre med et enkelt billede der viser alle elektroder oppefra

mvh