

Volla Community Days 2022

Remscheid, Germany, June 18



Volla in practice. A smartphone for doctors nurses and patients with MyGNUHealth

Luis Falcon, MD





About me

Luis Falcón

President, GNU Solidario

Author of GNU Health

falcon@gnuhealth.org



Education

- Computer Scientist
- Physician
- Genomics & Medical Genetics

Activism

- Social Medicine
- Animal Rights

History of GNUHealth and Community





GNU Solidario

- Non-for-profit organization
- Works globally
- Focused on Social Medicine
- Fights for the right of human and nonhuman animals
- NPO behind GNU Health



GNUHealth

THE LIBRE DIGITAL HEALTH
ECOSYSTEM

Volla Community Days 2022
Remscheid, Germany - June 18

From GNU Solidario



Group pic from **GNUHealthCon 2018** in Canary Islands



Official GNU Package

Official GNU Package

Open Documentation

Relies on free/libre technology

Friendly community



PostgreSQL



GNU Health around the world



United Nations IIGH



International Institute for Global Health

World Health Organization - WHO



Immunization schedules



Training session to WHO officials from western Africa

Malaria, TB and HIV modules

List of Essential Medicines

Tropical diseases

ICD-10 ICPM

Pediatric growth charts



GNU Health implementation with WHO at Bafia general hospital

GNU Health declared Digital Public Good



Digital
Public
Goods
Alliance



Academia



United Nations University, Kuala Lumpur, Malasia



Univ. Palermo, Italia

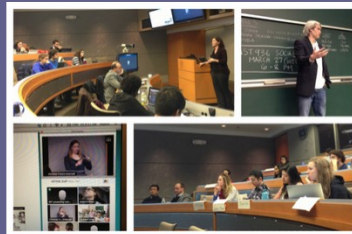


Universidad de Entre Rios, Argentina

HST.936: Global Health Informatics to Improve Quality of Care

The 2015 iteration of our course will focus on **Public Health Emergencies and Humanitarian Crises**.

Classes begin: **February 6, 2015**
Fridays 8am - 11am ET (GMT -5)
Room: **09-057**



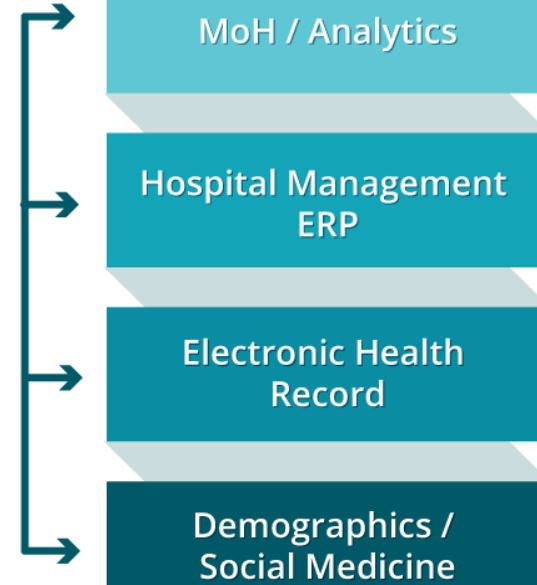
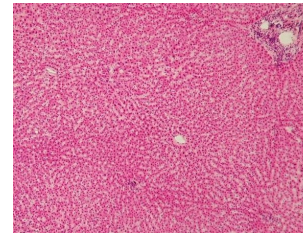
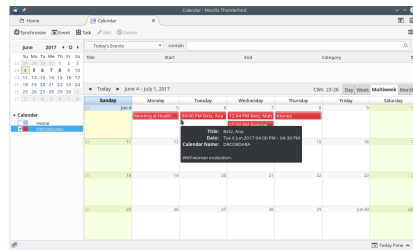
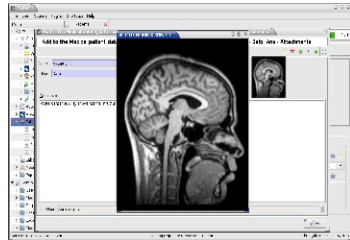
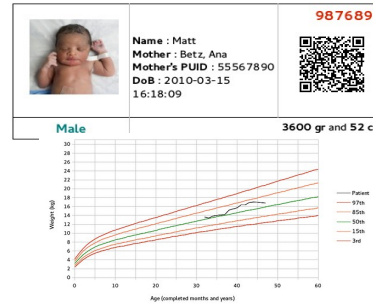
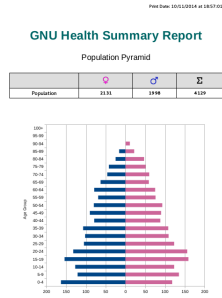
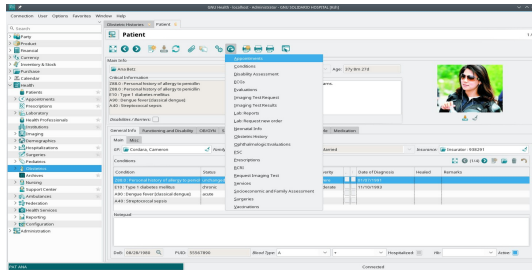
Harvard / MIT, Boston, United States



GNUHealth ecosystem components



GNUHealth HMIS component



Dx Imaging: GNU Health + Orthanc PACS Server

- Artikel
- Währungen
- Health
 - Books of Life
 - Patients
 - Appointments
 - Prescriptions
 - Health Professionals
 - Institutions
 - Imaging
 - Orthanc
 - Patients
 - Studies
 - Dx Imaging - New
 - Dx Imaging Requests
 - Dx Imaging - Results

Studies

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Patient: PHENIX Description: CT2 TÊTE, FACE, SINUS

Date: 27.09.2005 Institution: HUG

Referring Physician: CHIR-PED^CHIR-PE ID: 1361

UUID: 49974143-ec23cb52-6b2a1c46-14d5daa0-0822ce1a URL: 🌐

Server: Orthanc_Demo Test: 🔍

Orthanc Demo - Patient - Study - Series - Mozilla Firefox

https://demo.orthanc-server.com/app/viewer.html#seriesId=0216d2-a406a5ad31e7a7b-113ae9d9-29939f9e

Orthanc Demo - Patient - Study - Series

Filter items...

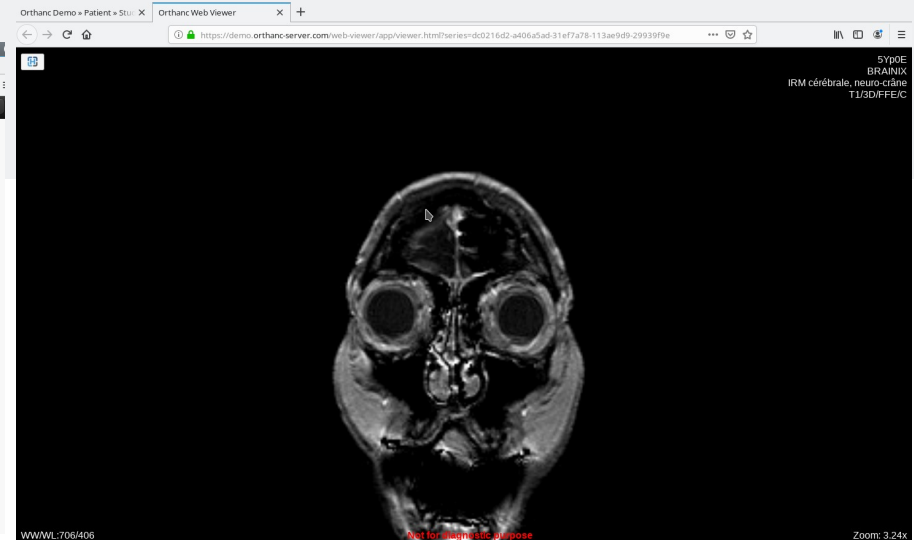
Patient	Instance 1
BRANIX	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483570761
Patients: 1	TemporalPositionIndex: 1
Study	Instance 2
IRM cérébrale, neuro-crâne	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483564790
AccessionNumber: 0	TemporalPositionIndex: 1
InstitutionName: TCFPRQIqz-N4dY0b_0u2Q5X	Instance 3
ReferringPhysicianName: ANX723095	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483557499
RequestProcedureDescription: IRM cébrale, neuro-	TemporalPositionIndex: 1
StudyDate: Friday, December 1, 2006	Instance 4
StudyID: 218211405	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483550696
StudyInstanceID: 216360.111969.832.20.1211.1000	TemporalPositionIndex: 1
Series	Instance 5
T13DFFFC	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483543687
Study: 0x00000000	TemporalPositionIndex: 1
Modality: MR	Instance 6
NumberOfTemporalPositions: 1	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483535696
RequestProcedureDescription: IRM cébrale, neuro-c-	TemporalPositionIndex: 1
ProtocolName: T13DFFFC CLEAR	Instance 7
SeriesInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.539	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.200612011448352694
SeriesNumber: 801	TemporalPositionIndex: 1
StationName: 800A	Instance 8
	SOPInstanceID: 1.3.46.87098.11.0.0.11.4.2.0.8743.5.5396.2006120114483521694
	TemporalPositionIndex: 1

Send to DICOMweb server

Transfers accelerator

Orthanc Web Viewer

Interact



Cancer and Neurodegenerative diseases Research

GNU Health - admin@localhost/genetics - Administrator - GNU SOLIDARIO HTAL [Euro]

Window Help

Variant Phenotypes 17 / 40

Variant Phenotypes

BRCA1

Gene & Protein	Variant	Phenotype
BRCA1 (P38398):breast cancer 1, early onset	VAR_007778 : p.Thr1025Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007781 : p.Val1047Ala	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007782 : p.Pro1150Ser	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007796 : p.Ala1708Glu	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007799 : p.Met1775Arg	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679 : p.Glu10Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680 : p.Glu23Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020683 : p.Asp749Tyr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690 : p.Ser1187Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691 : p.Gln1200His	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020692 : p.Arg1204Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020693 : p.Lys1207Asn	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695 : p.Ser1217Tyr	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_063212 : p.Met1775Lys	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666 : p.Arg1699Trp	DI-02602:Breast cancer
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_020896 : p.Pro47Ala	DI-02602:Breast cancer
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_020900 : p.Met299Ile	DI-02602:Breast cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_007757 : p.Cys61Gly	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020702 : p.Cys1697Arg	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_075666 : p.Arg1699Trp	DI-01655:Ovarian cancer
BRCA1 (P38398):breast cancer 1, early onset	VAR_020679 : p.Glu10Lys	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020680 : p.Glu23Lys	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020690 : p.Ser1187Ile	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020691 : p.Gln1200His	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020695 : p.Ser1217Tyr	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020696 : p.Phe1226Leu	DI-01559:Breast-ovarian cancer, familial, 1
BRCA1 (P38398):breast cancer 1, early onset	VAR_020697 : p.Arg1243Gly	DI-01559:Breast-ovarian cancer, familial, 1
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_023700 : p.Gln255His	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_023702 : p.Ala349Pro	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_023703 : p.Trp647Cys	DI-01603:Fanconi anemia complementation gr
BRIP1 (Q98X63):BRCA1 interacting protein C-t	VAR_023704 : p.Arg707Cys	DI-01603:Fanconi anemia complementation gr

Connected

VMD 1.9.4a12 OpenGL Display

lhm : vmd - Konsole <2>

```
File Edit View Bookmarks Settings Help
Info) Angles: 0 Dihedrals: 0 Impropers: 0 Cross-terms: 0
Info) Bondtypes: 0 Angletypes: 0 Dihedraltypes: 0 Improper types: 0
Info) Residues: 224
Info) Waters: 3
Info) Segments: 1
Info) Fragments: 5 Protein: 2 Nucleic: 0
@
```

MyGNUHealth: The Libre Personal Health Record



MyGNUHealth: The Libre Personal Health Record



MyGNUHealth running on Desktop

MyGNUHealth

GNU Health - BIO

Bio	120 / 80 74 bpm
Psycho	92 mg/dl
Social	90.3 kg
Documents	98 %
Emergency	

MyGNUHealth

GNU Health - BIO

Blood Pressure & Heart Rate

120 / 80 74 bpm	mar, jul 28 '20 - 22:49
92 mg/dl	mar, jul 28 '20 - 22:49
90.3 kg	jue, jul 23 '20 - 22:49
98 %	lun, jul 27 '20 - 22:50

Blood Pressure (mm Hg)

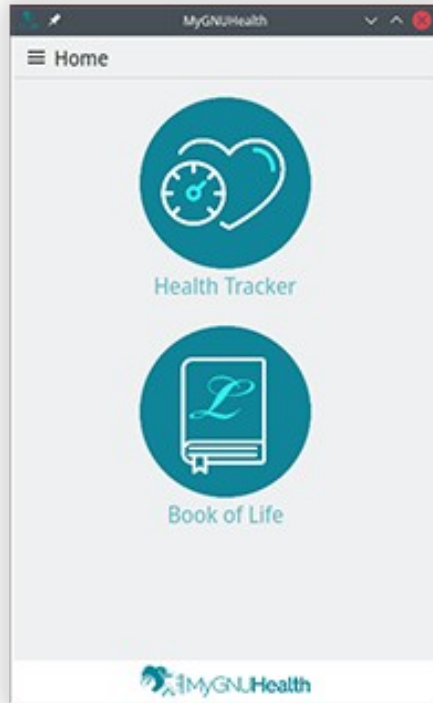
Systolic

Diastolic

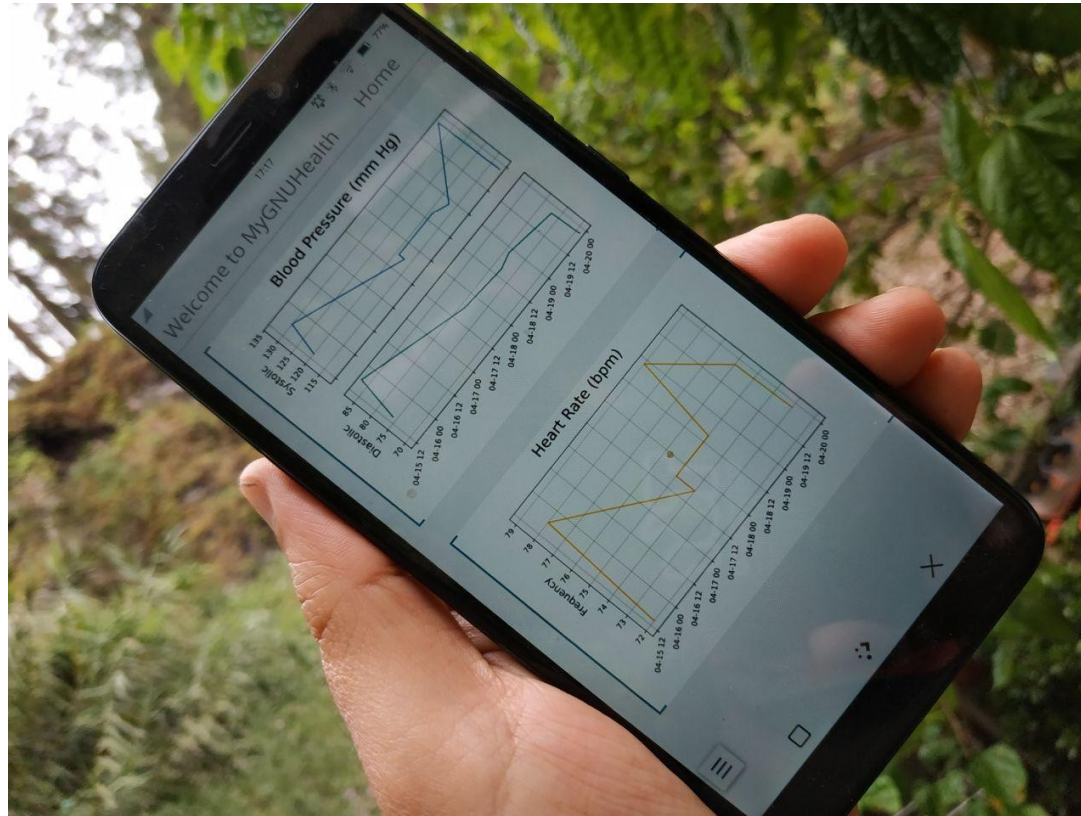
Heart Rate (bpm)

Frequency

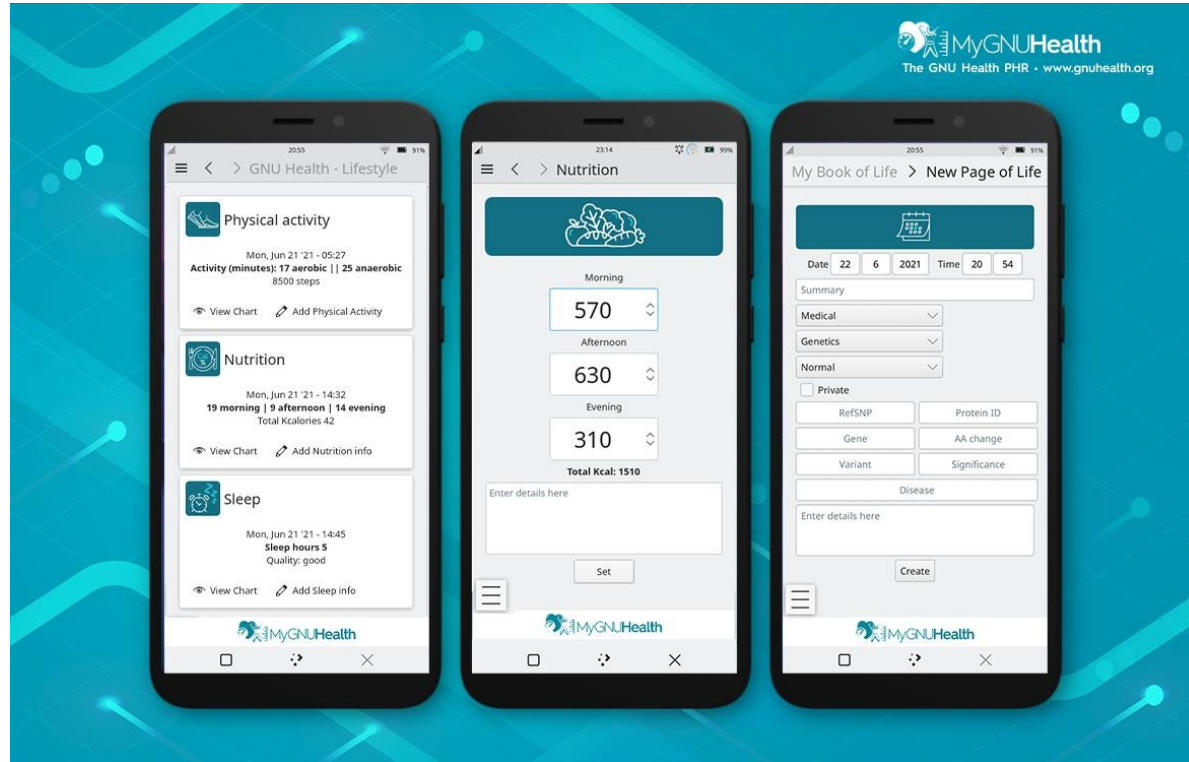
MyGNUHealth on Desktop



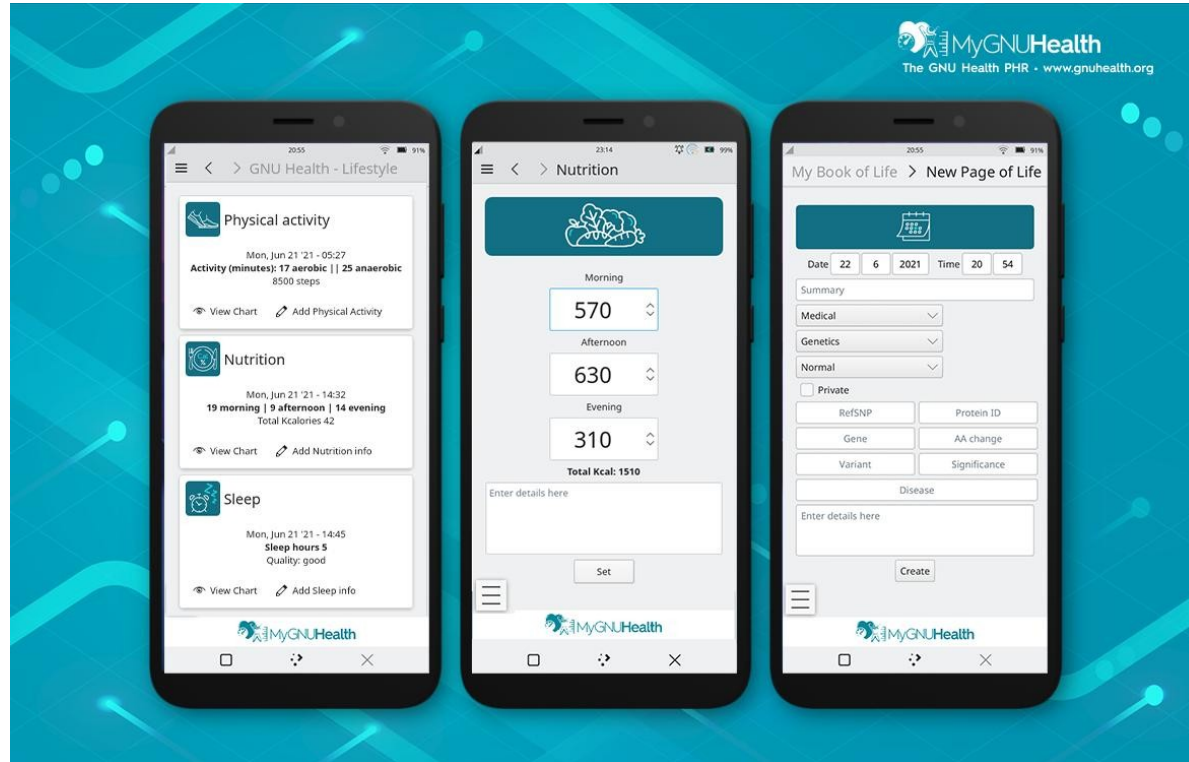
MyGNUHealth on Linux Phones



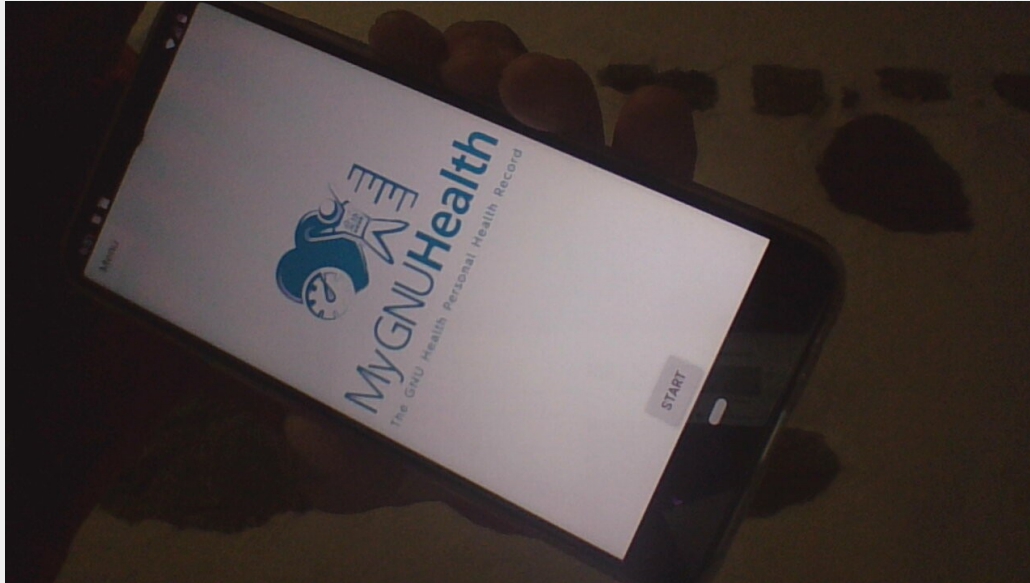
MyGNUHealth



MyGNUHealth



MyGNUHealth on Volla Android AOSP (dev)



MyGNUHealth on Volla Android AOSP (dev)



kivy

Unify development

GNU/Linux Desktops

Linux phones (openSUSE, etc..)

AOSP / VollaOS

Same User Interface and experience

Libre / community oriented project

MyGNUHealth on Volla Android AOSP (dev)



kivy



MyGNUHealth nodes in the GH Federation



Highlights

Every person is a node

Realtime update with her health professional

Person is in control of what to share

Decrease the burden in the public health system

The person is now an active member in the public health system

Benefits of a Libre Public Health Network

Unique ID & history

Person demographics and **medical history up-to-date** no matter the health institution she goes across the country

Improve quality of care

Health professionals have better and timely patient information. Saving time and providing better healthcare



Libre Software: No hidden code, no blackboxes in healthcare.

The health software will be a **public good**.

Save millions of euros in licenses that can go to improve the public health system.

Empower the community

The person is now an active player in the system of health



Real-time observatory and reporting



See you at #GHCon2022, Gran Canaria !



GHCon2022

VI International GNU Health Conference
Nov. 18 - 19, Las Palmas, Spain

<https://www.gnuhealth.org/join>

Thank you
for being part
of GNU Health!

