Xavier Cauchy
April, 2016

http://LimiFrog.io

Agenda

- Origins
- (Very) quick demo
- Users and usages
- Contents – hw and sw

Origins

Product Idea :
a wearable
configurable
connected
device

Problem : how to get a credible,
decent-looking functional prototype ?

...Ended up with a platform that seemed worth sharing

What is it ? - Quick Demo

Full-color
OLED display

USB-rechargeable
LiPo battery

PROCESSING & STORAGE

ARM
32bits

64
Mbit

MANY SENSORS

CONNECTIVITY

Bluetooth 4.

USB

Extension pins
for connection to external system

funded with KICK STARTER

For whom ?

Start-up entrepreneurs, Labs (industrial/academic)

Convincing proofs of concept with minimal investment

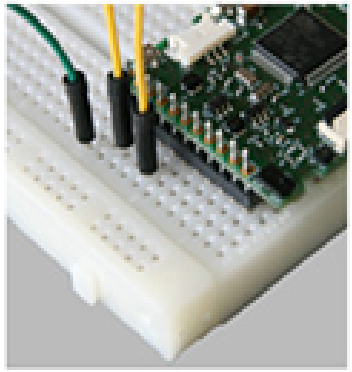
'*Makers*'

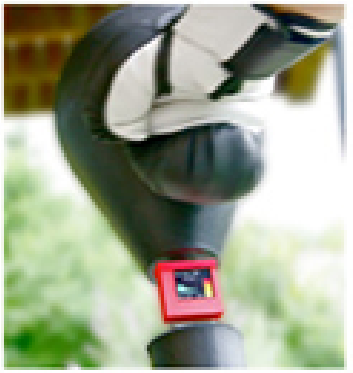
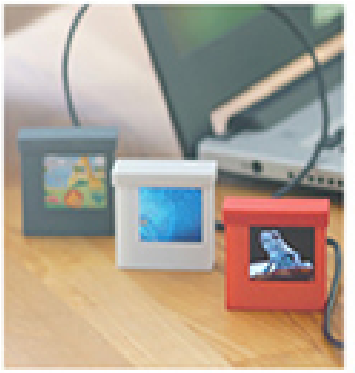
New possibilities for original or ambitious projects

Higher Education

Single platform for multiple projects + smooth introduction to ARM 32-bit programming.

Usages

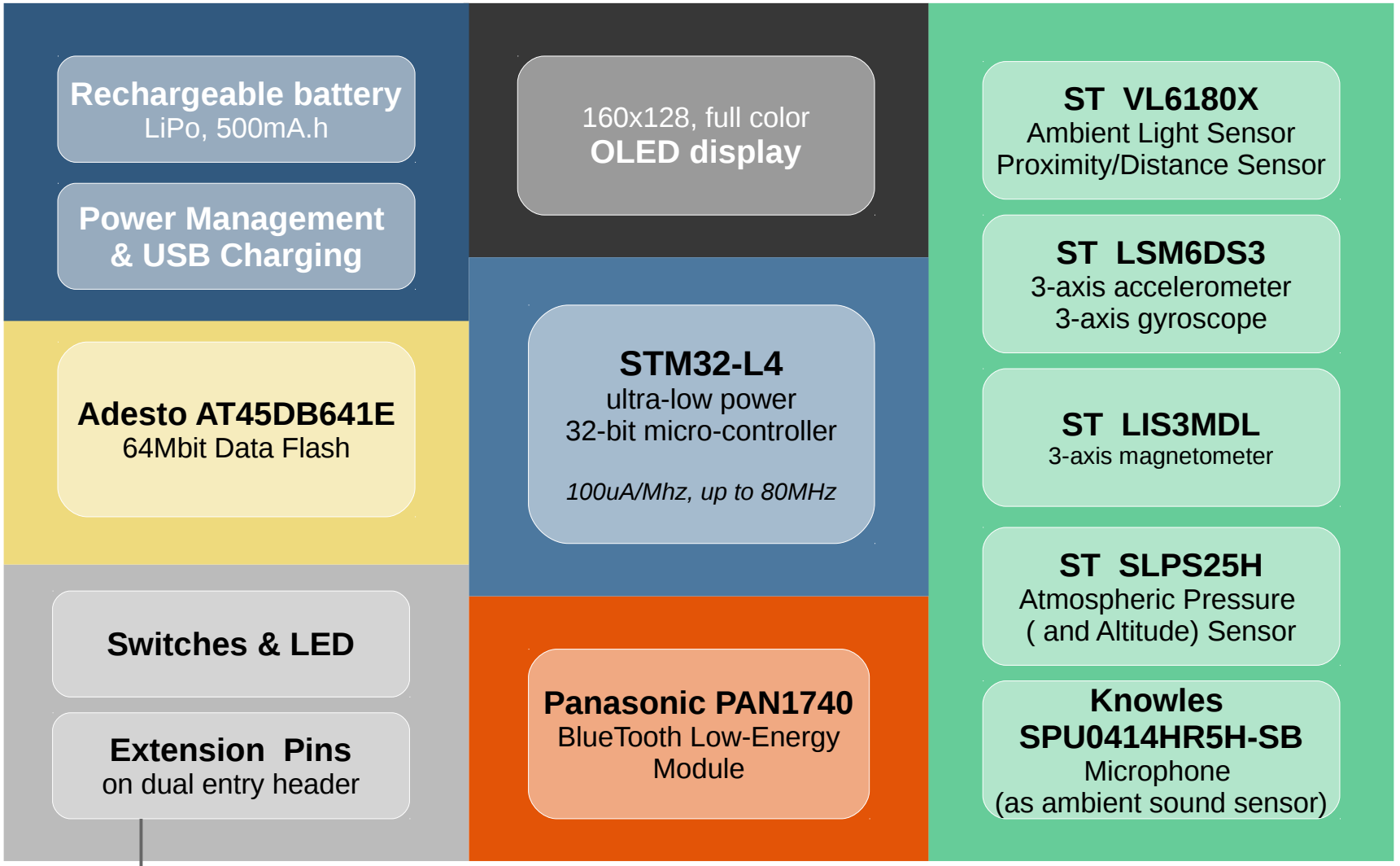



- On breadboard or embedded in prototype
- With or without display

- 3D-printable model of protective case available, open-source *(STL, OpenScad)*
  - Several variants available
  - « Ready-made » 3D-printed case also available

Contents (hardware)



Software

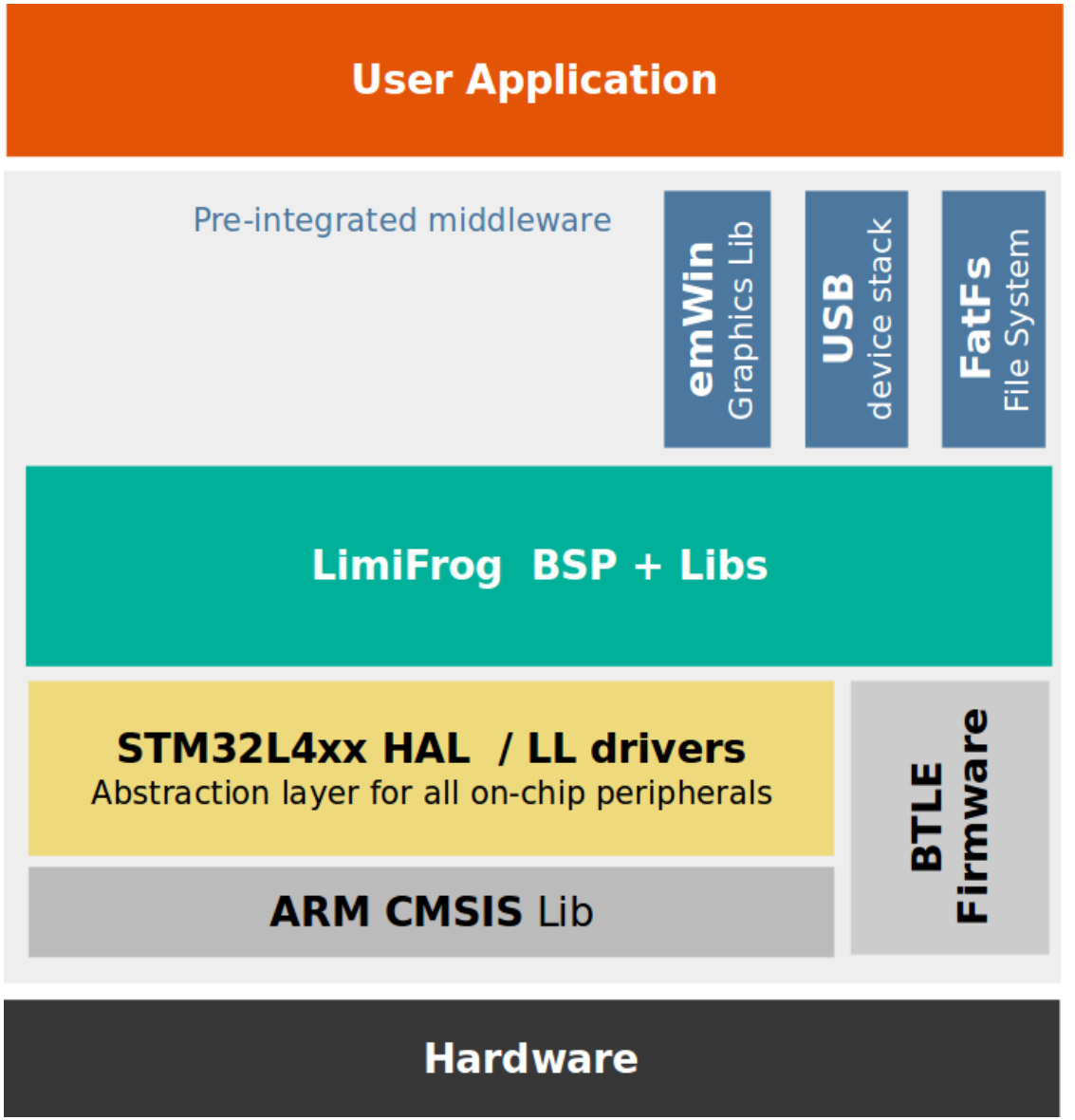
Example application code is provided
> Unitary Tests
> Full Demos

« Pre-integrated » middleware
- Data Flash ready to use as File System
- Data Flash ready to use as USB drive
- Display ready to use with Gfx library

Libraries made specifically for LimiFrog, to ease exploiting its resources

Generic library to drive all on-chip peripherals.
HAL : higher-leve and polyvalent, but sometimes heavy
LL drivers : faster, denser but lower level

Low-level library
(uC register abstraction etc.)



Software (cont'd)

- MicroPython support : delayed but upcoming
  - « lean and fast implementation of Python 3, optimized to run on a micro-controller » -- see *micropython.org*
  - Using terminal or scripts on file system (flash drive)
  - Ported to STM32L4 and LimiFrog *by Tobias Badertscher*
  - Merge into main MicroPython repo ongoing

- RIOT OS ported to early version (STM32L1) *by RIOT Team @ Hamburg University*
- Porting to STM32L4-based LimiFrog tbc

Take-Aways

- A compact,
  low-power,
  fully-featured platform,
  intended to be both powerful and easy to master

- Usable for quick demos as well as serious embedded programming

- Especially suited to produce credible demonstrators
  when integration, size or weight matter

T H A N K Y O U

http://LimiFrog.io