



MHEALTH FRAMEWORK

Amalgamating and governing the fragmented market of big data mhealth applications spread across multiple platforms

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OVERVIEW

- Inspiration for the research
- Introduction
- Current Ecosystem
- Fourth Generation Data Processing
- Proposed Framework
- Using the app
- SDK Overview
- Conclusion
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INSPIRATION FOR THE RESEARCH



INTRODUCTION

- mHealth: Healthcare related applications that are able to run on mobile devices such as tablets, smartphones, and wearable devices (Becker et al., 2014).
- Consumers have emerged as data generators, creating new data for analytics and generating new insight (Kumar et al., 2013).
- Big data is a set of techniques involved in processing large and complex datasets (Wu et al., 2014).
- Visual analytics is the analytical reasoning aided by interactive visual interfaces and can be used in big data to drive new insights (Kamal et al., 2014).
- mHealth related applications are platform dependent and collected data is of poor quality (Hailey, 2013).

CURRENT ECOSYSTEM



- ✓ Fitbit
- ✓ Jawbone



- ✗ Fitbit
- ✗ Jawbone

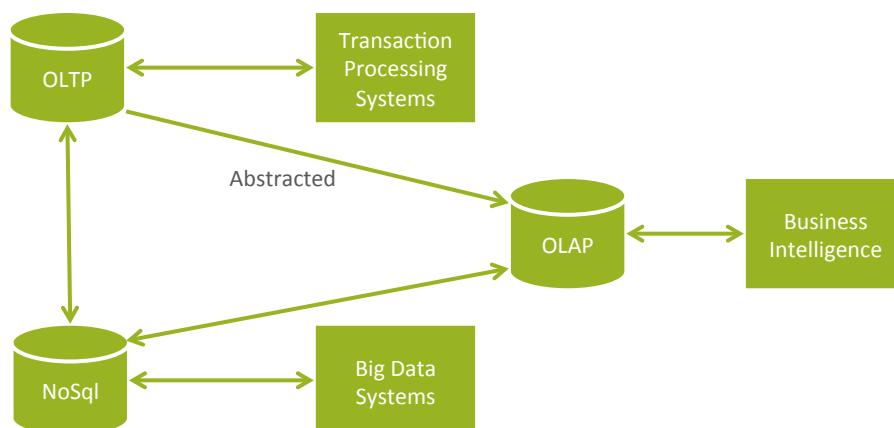


- ✓ Fitbit
- ✓ Jawbone



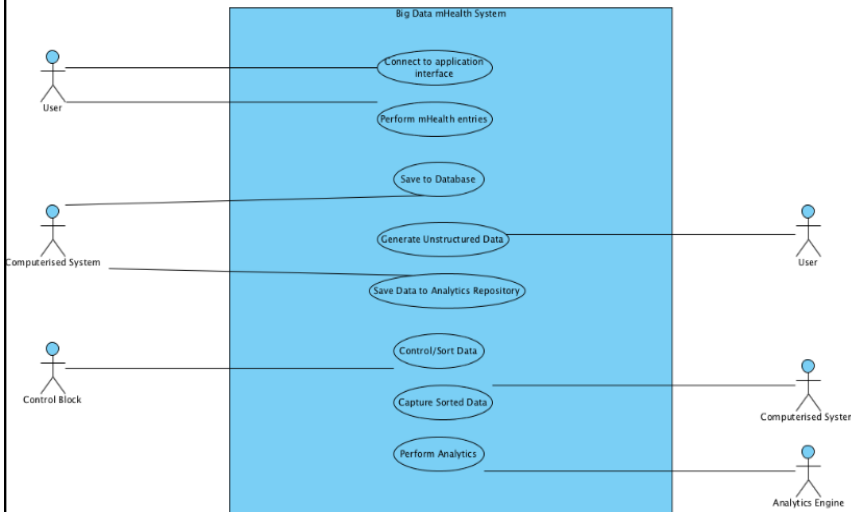
- ✓ Fitbit
- ✗ Jawbone

4TH GENERATION DATA PROCESSING



(Source: Mitchell & Wilson, 2012)

PROPOSED FRAMEWORK – USE CASE



ACTORS

User will proceed to:

- Launch application
- Perform mHealth related activities
- Generate unstructured data

Computerised system will:

- Save to database
- Save to Analytics Repository
- Capture Sorted Data

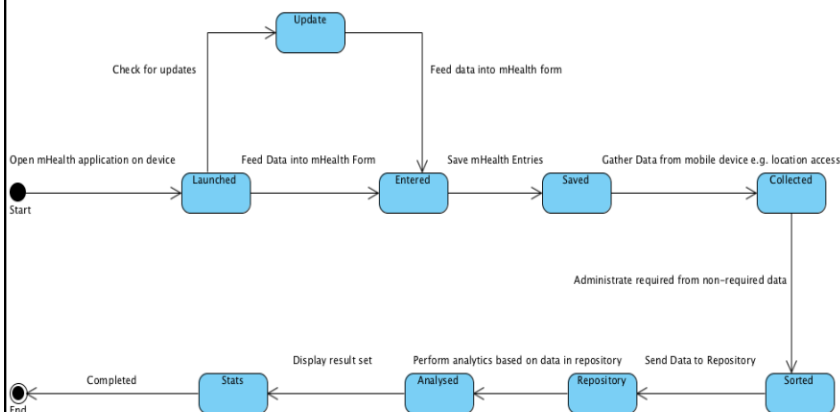
Control Block will:

- Control/Sort Data to improve data quality

Analytics Engine will:

- Perform Analytics

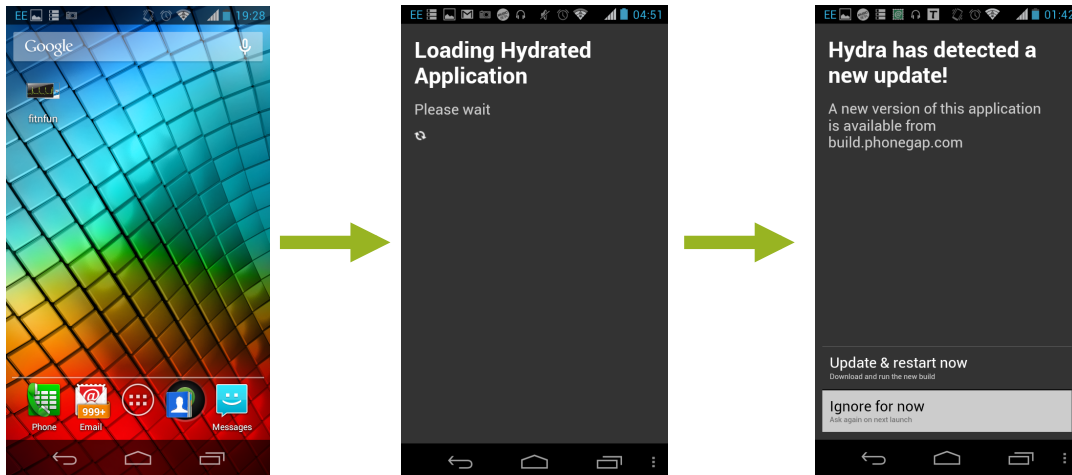
PROPOSED FRAMEWORK – STATE TRANSITION



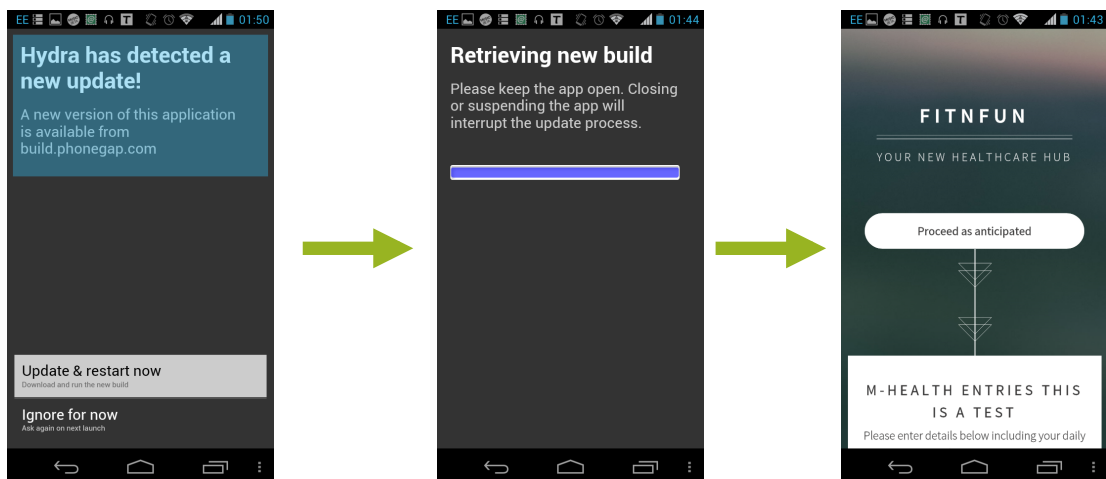
STATES

- **Launched:** Indicates that the application is open.
- **Update:** The program is connecting to the application server to check for updates.
- **Entered:** The application is running
- **Saved:** User has proceeded to feed in data.
- **Collected:** Application has acquired data from sensors such as gps and accelerometer.
- **Sorted:** Data has been filtered to improve quality.
- **Repository:** Data is sent to repository.
- **Analysed:** Data analytics is performed.
- **Stats:** Intelligence derived is displayed in terms of charts and diagrams.

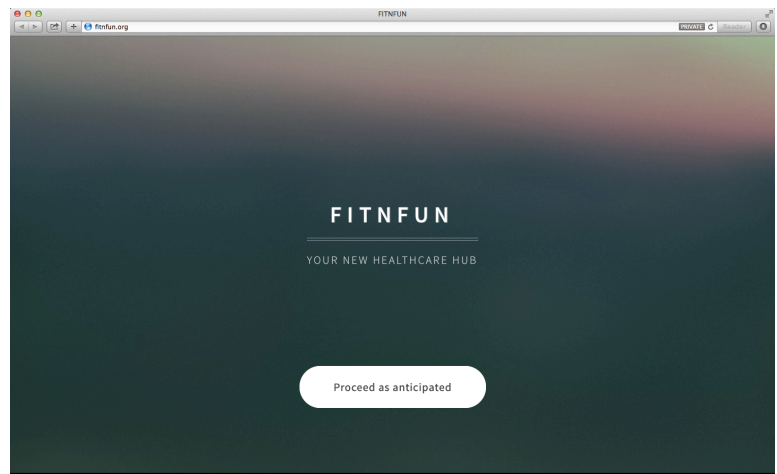
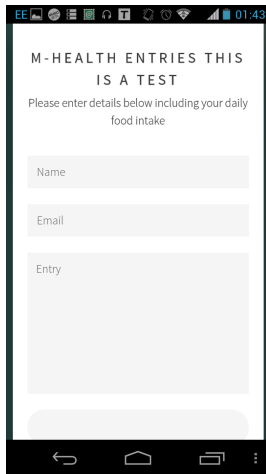
USING THE APP (1)



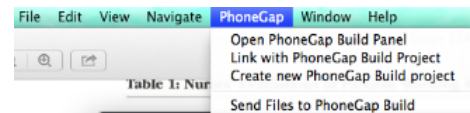
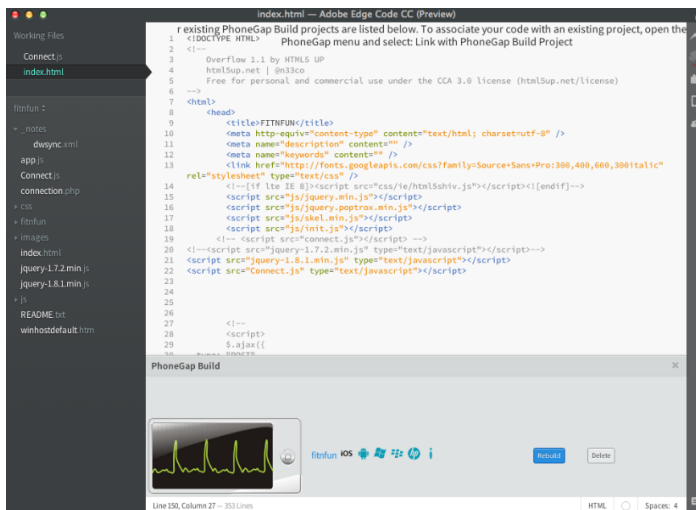
USING THE APP (2)



FULL INTEGRATION – MOBILE & DESKTOP



SDK – ADOBE EDGE CC



AMALGAMATED FRAMEWORK



CONCLUSION

- Data should remain within the EU (Poullet, 2006), how do we know where is our data located in the cloud?
- Does generated insight affect human behaviour? If so, how?
- Can visual and big data analytics yield to a better quality of insight generation?

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QUESTIONS

THANK YOU