



# Technologies for ageing well

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Today, technologies are ubiquitous in our daily lives, regardless of biological age.

NESTORE platform investigated different technologies that are appropriated to be used and sustain ageing well.

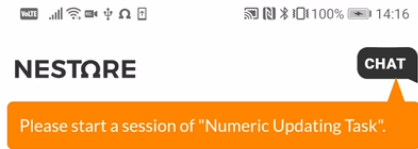


**Process on short**

1. Identify and analyse the platform requirements
2. NESTORE Ontology Integration
3. Development and implementation of NESTORE architecture
4. Integration and development of communication interface NESTORE Components Integration
5. Integrated tests of the NESTORE platform



# The NESTORE Solution



Welcome in  
Nestore!



P My pathways

Improve Aerobic  
Fitness

Decrease Body  
Weight

New activities



Crossplatform **App**  
and integrated chatbot

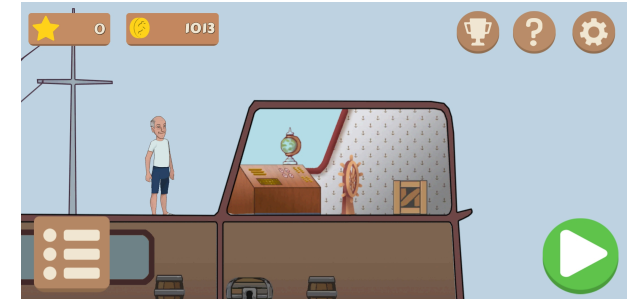
## NESTORE Cloud

(recommender system, food image  
recognition, conversational agent,  
semantic emotion analysis, ...)

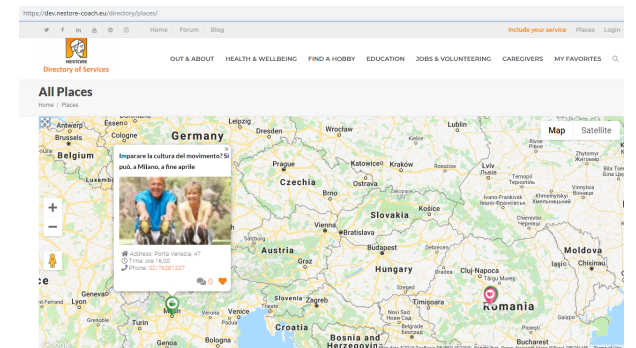


## NESTORE kit

(tangible coach, smart bracelet, environmental  
and social beacons, sleep monitor, smart scale)



## Serious Game



## Social Platform

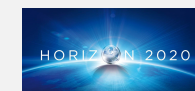


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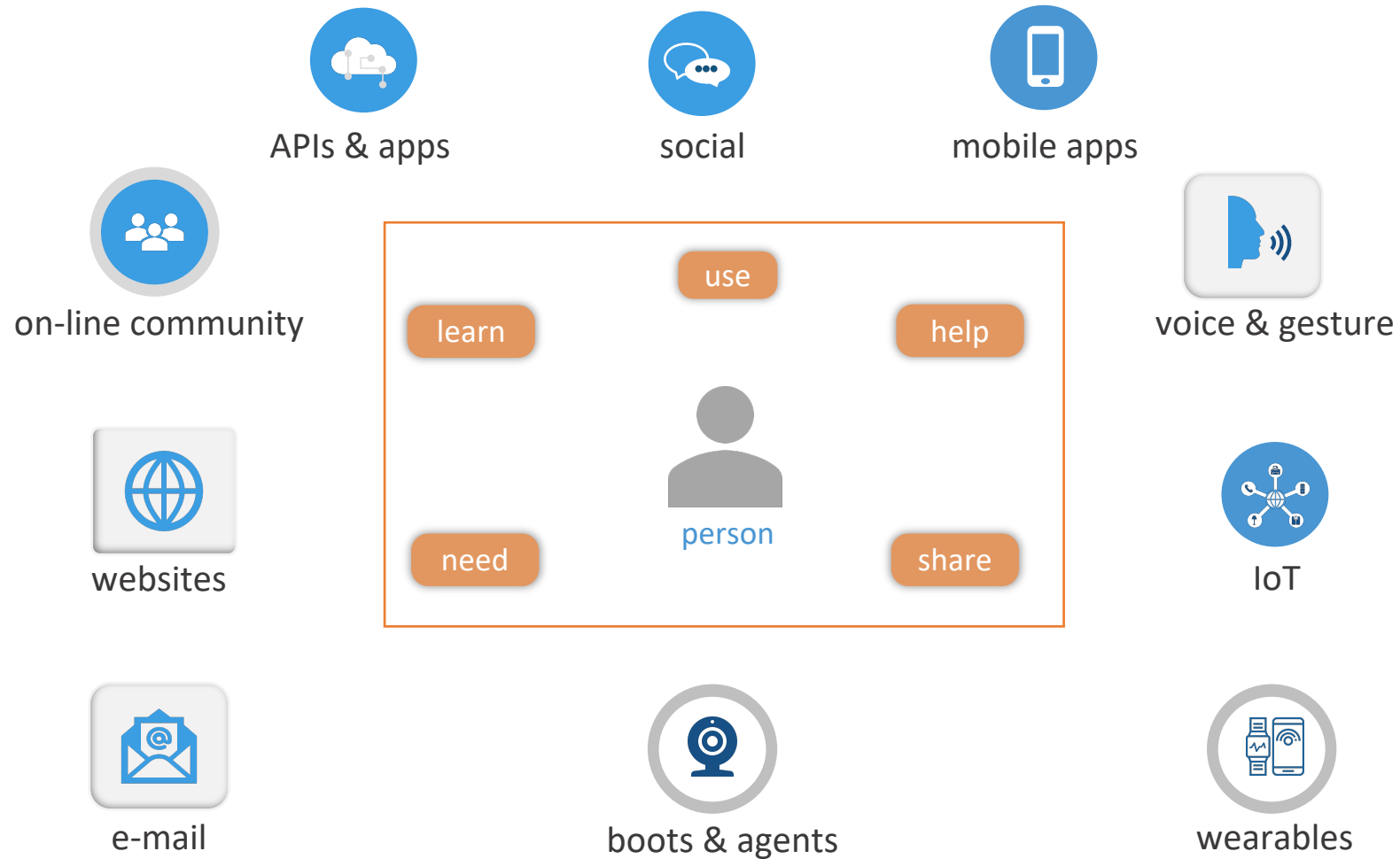
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# Nestore User Journey



# Hardware Parts



Beacons



Smart Scale



Flexibility



Sleep Monitor



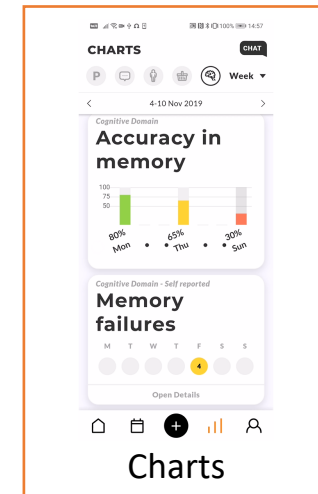
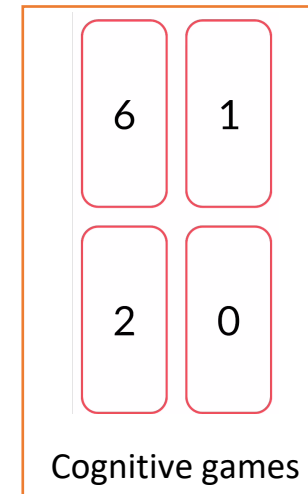
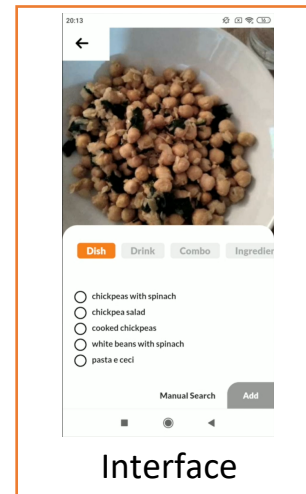
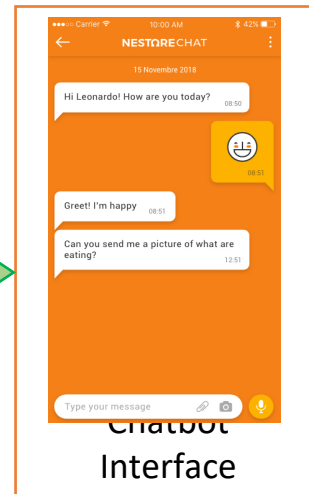
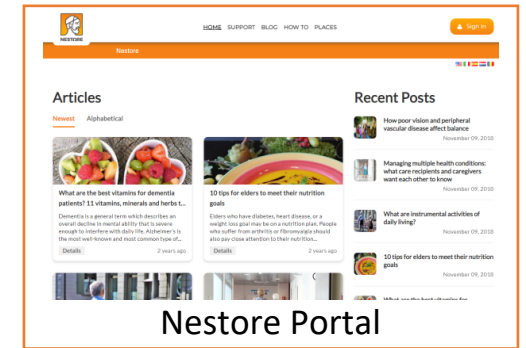
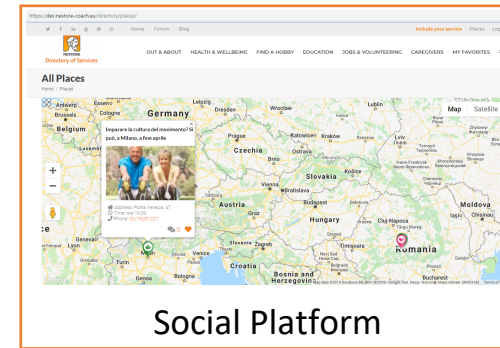
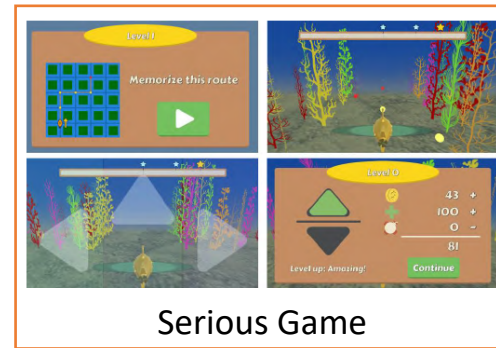
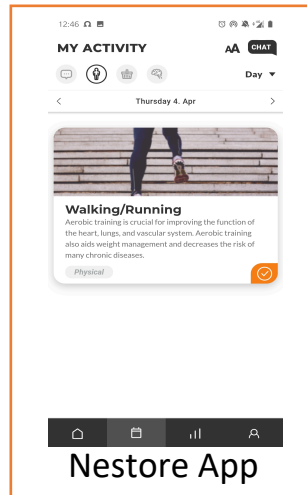
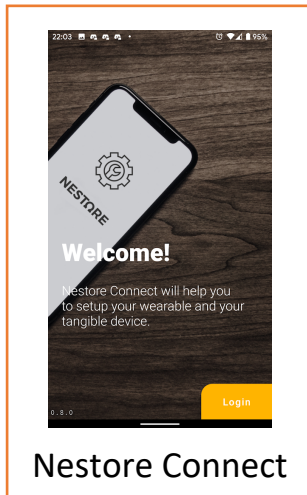
Tangible Interface



Wearable



# Software Parts

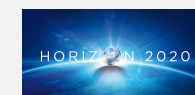


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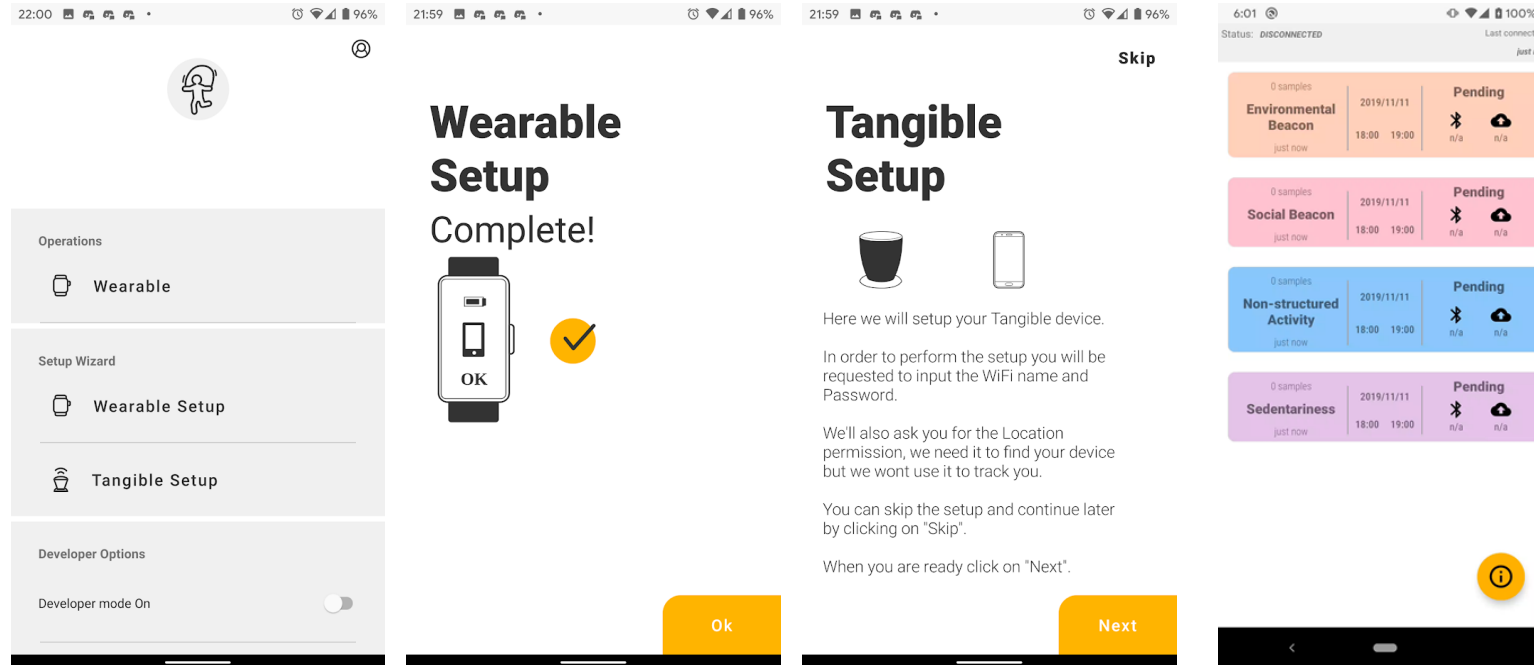
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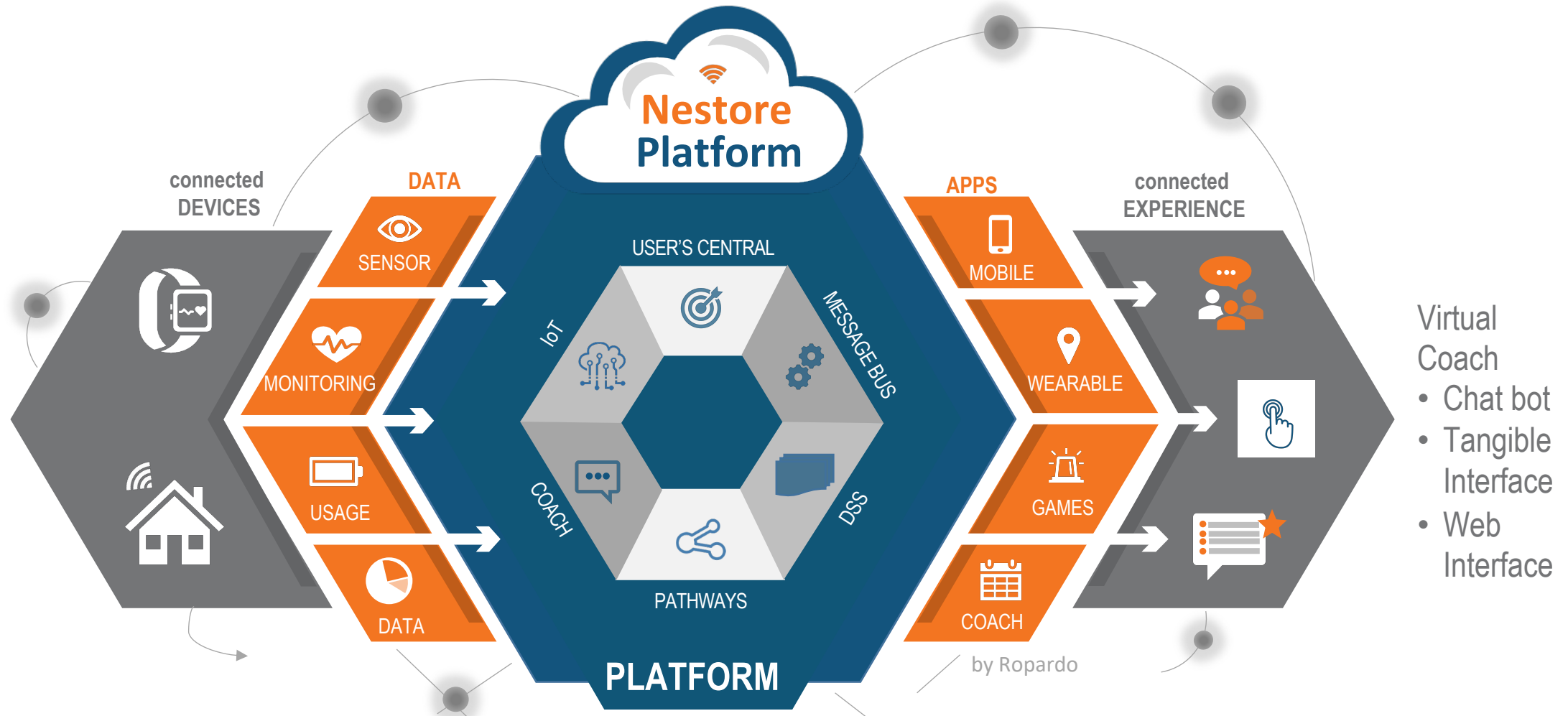
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# Nestore Connect



# NESTORE Architecture

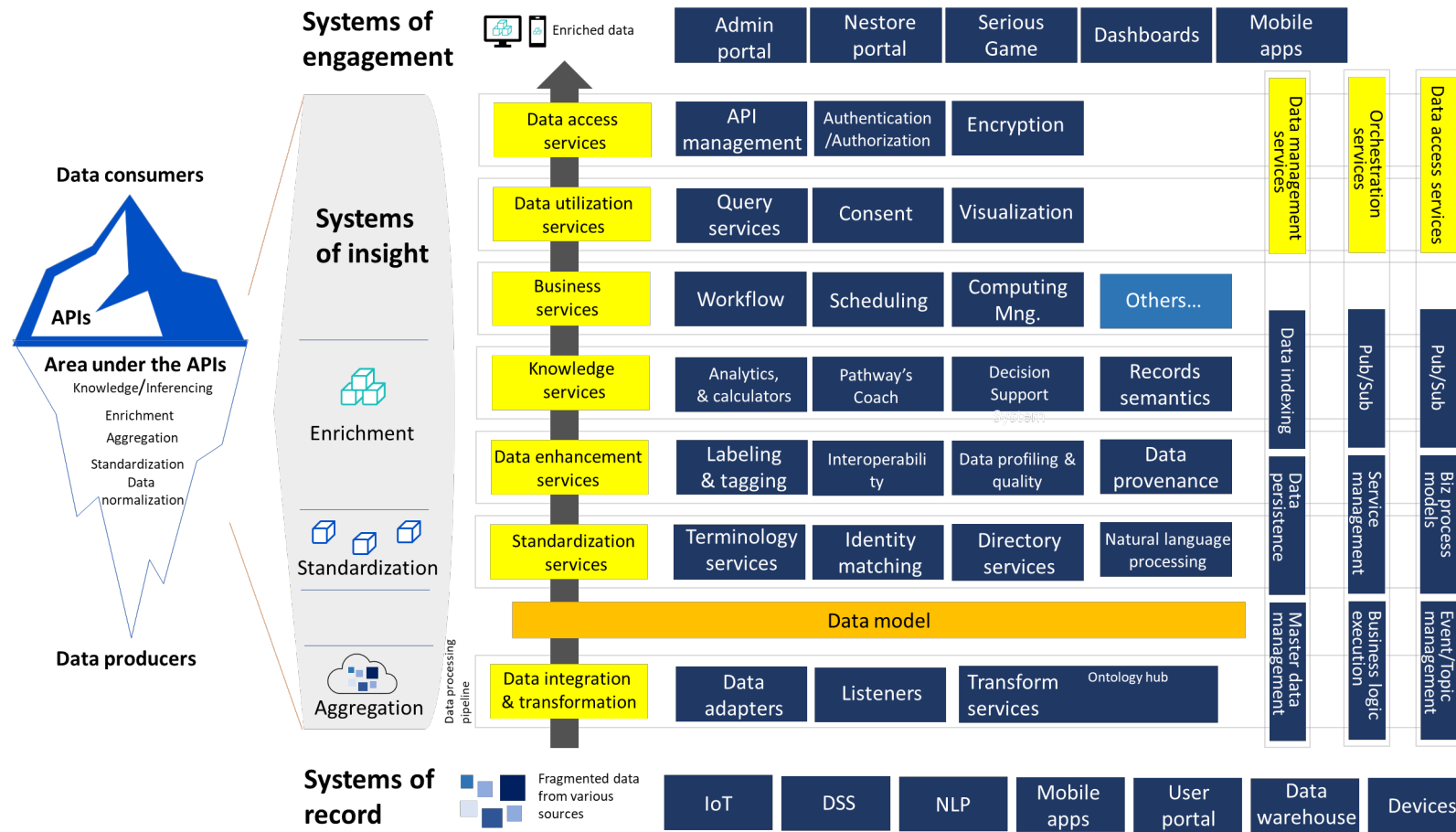


# Facts

Tech Facts	KPI's (for production)
Databases, different databases for different scopes: <ul style="list-style-type: none"><li>• No-SQL / SQL / Time-Series</li></ul>	> 10 Databases instances and one Warehouse Database.
Were defined tens of micro-API's that serve the Nestore Platform.	> 100 micro-API's
3 Mobile Applications were developed (Nestore App, Nestore Connect, Serious Game)	Nestore App more that 100 screens / to support all the use-cases.
2 Web Applications were developed	Nestore Portal allow Users to control their profile;
Open source published during Nestore	Nestore Ontology (domain usage for Physiological Status and Physical Activity Behavior - 8 ontologies, Nutrition - 3 ontologies and Cognitive and Mental Status and Social Behavior - 4 ontologies), Nestore-uAAL bridge.
Conversational agent	3000+ messages and phrases translated in 4 languages 50+ voice intents recognized by our conversational agent (in the 4 languages)
Context-aware holistic recommender system	More than 350 recommendations tagged to be personalized in terms of the type of user and context



# Nestore Backend Services

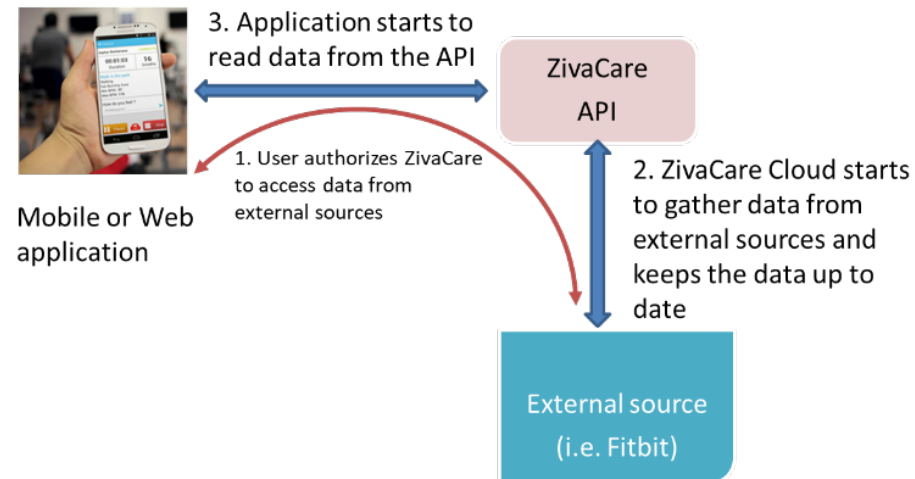


Nestore platform is integrating tens of components that all are integrated using API's.

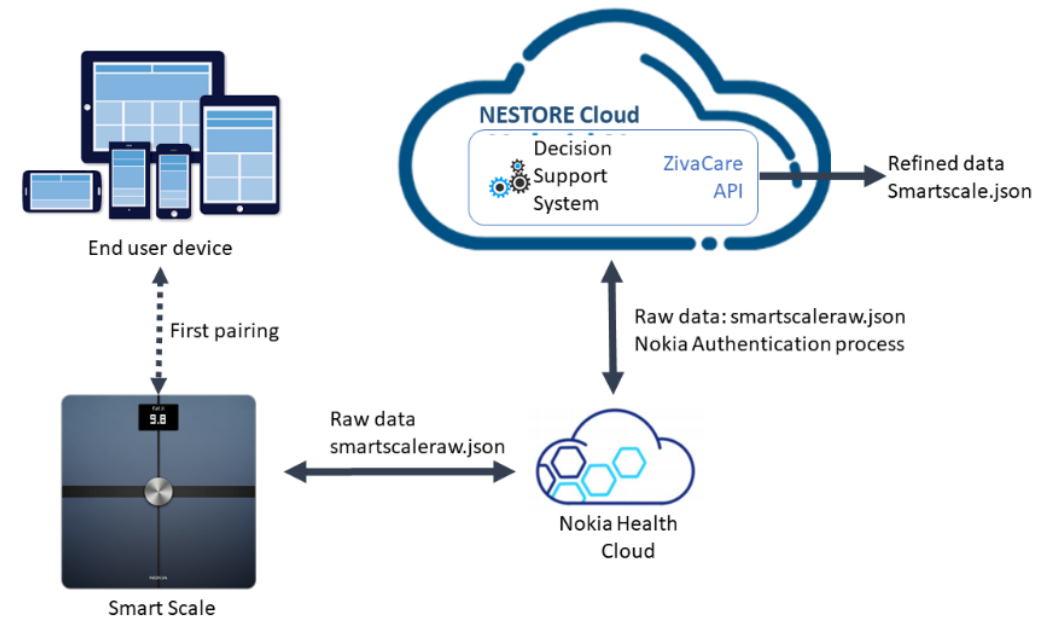
The Nestore Platform complexity is shown on this slide.

# Integration of 3rd party devices

## Third party data providers



The process of gathering user data from third-party systems



Smart scale integration

# NESTORE Lesson Learned

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- Teamwork – Domain Experts must be with your Tech Team all the way
  - Early Develop and Maintain a common Ontology, between Domain Experts and Tech Team
  - Agile organization - Sprint(s) and lesson learned sessions
- Know the “Why” – 1) identify user needs , 2) do not super engineer your Tech Solution
- Mobile apps that duplicate web content are pointless (most of the time)
- Open source is the presence and future – use and give it back
- Never skimp on QA Testing
- Never stop learning



# What can be done different

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- Challenge : assess at the same time the efficacy and the user experience of the system
- Standardization to improve interoperability
- Management of the different smart phone OS version
- Involving experts in using the whole system from the very beginning
- Co-design process to be as deeper as possible
- Reduce Complexity - coaching and assessment in 4 domains at the same time -> requires too many technologies and functions that may confuse users
- Multi-domain scope of the project – generate complexity of the overall coaching system from the tech side also is very (and likely too) high to leave individuals alone with it



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# Thank you for your attention



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