

3) Dynaback - Dynaback the tshirt to alleviate back pain; **Madesign LTD**, Bulgaria

EXPERIMENT DESCRIPTION

The Dynaback solution in the MIDIH experiment consists in two main parts:

- The further development of the hardware: the Dynaback garment. A prototype of the Dynaback garment was finalized in a previous European project, and within MIDIH, the garment was made more comfortable, precise, and closer to manufacturing.
- The development of the backend to collect data from different sensors, to store them on servers, and to retrieve them for processing and visualization

The Dynaback garment underwent some considerable changes since the beginning of the MIDIH project. The size of sensors was reduced, the manufacturing process of electronics was brought closer to industrial production, the garment was designed more comfortable, accurate and compatible with the work environment.



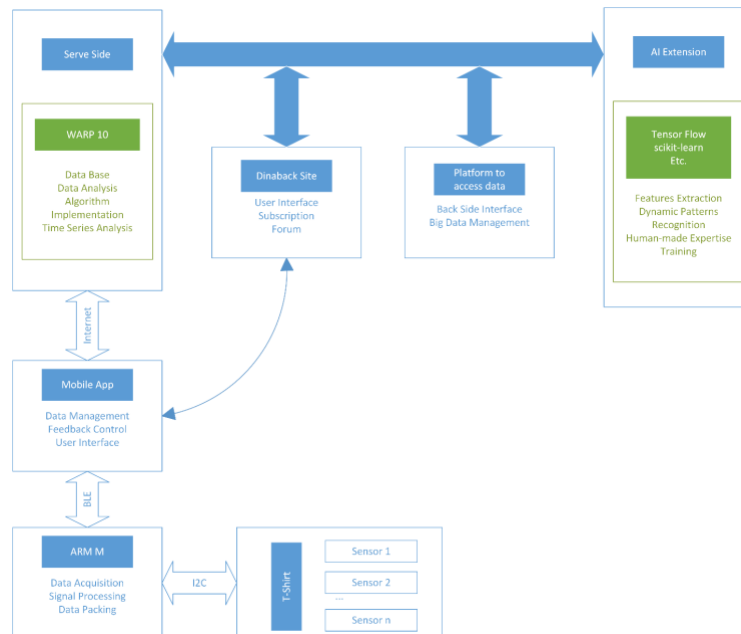
TECHNICAL IMPACT

The Dynaback garment is one facet of the project. It allows to collect data. However, the whole other objective of the project is to collect this data seamlessly, to store it and to process it.

The architecture has changed since the beginning of the MIDIH project. While originally the Mobile app was meant to communicate directly with the WARP 10 platform, we chose to include another server between the two.

The Warp10 platform was chosen because it maps well to MIDIH architecture. Many of MIDIH components are found in Warp 10. These are a few common parts of both systems:

- Kafka
- HBase
- Zeppelin
- Warp10 can be accessed from spark
- Warp10 can be accessed from pig
- Warp10 can be accessed from storm



ECONOMICAL/BUSINESS IMPACT

The growing regulations might explain the need for companies to protect their workforce better. For instance, in France in the coming couple years, new legislations will force companies to assess the painfulness of the work of their employees. Dynaback could be a good candidate to fill in the gap of missing technology. It is not only growing regulations that are pushing the companies towards increased safety. The realization that injuries have an unneglectable cost for the company is encouraging them to make sure their employees are safe. Work-Related Musculo Skeletal Disease account for Europe spending 500 billion euros a year.

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