

## What about our technology?

### Crowdsourcing App

The PlasticTwist platform includes a crowdsourcing web application (visit at <https://crowdsourcing.plastictwist.com>) which consists of three main parts:

a) A dynamically updated crowdsourced **plastic topics observatory**, which is responsible for the identification and visualisation of social media content about the plastic reuse thematic, using Twitter as the main source. By providing wordclouds of popular plastic-related terms, location and time-based plastic-focused information and key advocates of plastic reuse & recycling, facilitates access to interesting content, aiming to improve public's plastic-reuse lifestyle perception.

b) An **open designs repository**, where users can find interesting links to external sources, images in Flickr closely related to the plastic thematic and most importantly popular 3D printing designs in Thingiverse, as well as designs made from other PlasticTwist users, aiming to function as a source of creative inspiration.

c) An open **Crowdsourcing RESTful API** which allows access on the available data offering the possibility to experiment and utilize them for further research and evaluation purposes.

The crowdsourcing component has been developed by the **Data & Web Science Laboratory** research team of Aristotle University. For the development of the tool, real-time data analysis and collection methods, state of the art graph mining algorithms and NoSQL databases-queries have been utilised to produce a stable and efficient, performance-wise, web application. The back-end of the application has been developed using mainly Python and Node.js, while the front-end visualisations using VUE.js. The responsive design of the web app allows the user to access the content, regardless the type of the device used.

### PlasticWallet

The PlasticWallet allows to transfer and request **PlasticTokens** between users and to buy products in PlasticTwist's online Marketplace or adhered merchants. The PlasticWallet corresponds to the digital equivalent of a debit card and a bank account combined in one app. The PlasticToken is ERC20 compliant, and it was developed natively for **Hyperledger Fabric** in golang. The PlasticTokens run on top of a **smart contract** (also called chaincode by IBM) developed by the French company **Be-Studys** part of the group **Be-Yes**. The developed smart contract includes the six ERC20 functions: totalSupply, balanceOf, transfer, transferFrom, approve and allowance. With these functions and Hyperledger Fabric, PlasticTwist runs a payment scheme based on permissioned blockchain for a new circular economy based on the re-use and re-evaluation of plastic waste. The PlasticWallet is available for both iOS and Android devices through App Store and Google Play.

### "Plastic Heroes"

To encourage behavioural change towards plastics reuse and create self-awareness regarding the environmental footprint of their actions the PlasticTwist Game "Plastic Heroes" is designed as a **serious game** with focus both, on eLearning elements and a fun gameplay that aims behaviour change. The "Plastic Heroes" are activists that have the common goal to protect the environment by collecting and reusing plastic waste and to enlighten themselves and other people with information about the topic. The player will learn about the different types of plastic and how to sort plastic waste that is found in the environment. By completing missions and crafting new items the user will be awarded with in game currency as well as PlasticTokens. The game is developed using Unity3D for Android currently and will be launched on iOS soon. The game uses REST APIs to connect to PlasticTwist's blockchain and generate any PlasticTokens required.

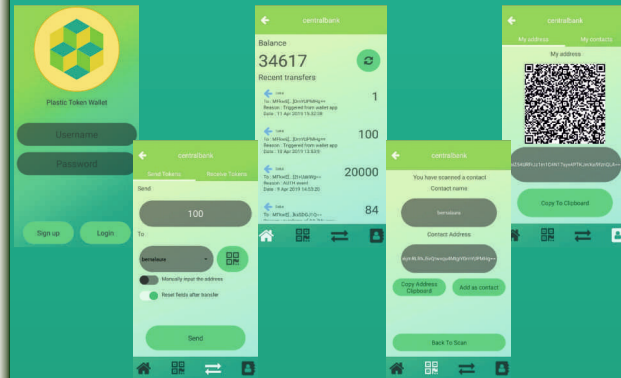
## Highlights



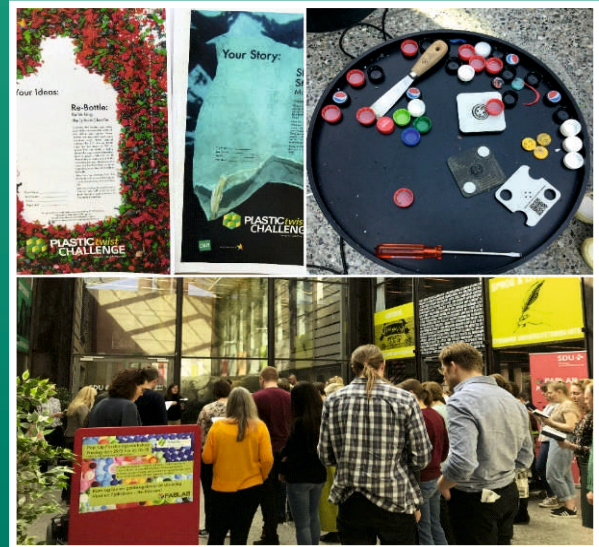
### COMING SOON: PlasticTwist bidding tool

We are developing bidding tools to have a fun experience at PlasticTwist affiliated events to bid on items created using reused/recycled plastic and buy these items for personal use. This provides users with the ability to learn about various uses of plastic apart from normal use.

### PlasticWallet mobile application



The **University of Southern Denmark** has been the host of the launching of the new PlasticWallet on March 29th. In the event organised by the Swiss pilot, the students, professors, and visitors have had the opportunity to test and play around with the new user interface and functionalities added to the new version



[www.plastictwist.com](http://www.plastictwist.com)



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