Using Choreographies to Support the Gamification Process on the Development of an Application to Reduce Electricity Costs

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Abstract

Building automation systems can contribute to reduce electricity costs, by managing distributed energy resources. But human behaviours impact a large range of energy consumption that cannot be optimized by automation alone. So we propose to use gamification techniques merged with building automation solutions to enable behavioural demand response. However, there is a lack of knowledge of the real actions of building users. We propose storing human actions data as choreographies, to enable the study of users' behaviours and then support a gamified solution in order to reduce electricity costs by behavioural change combined with building automation.

How to engage users to adopt the proposed choreography?

Main Idea Workflow

GRESBAS

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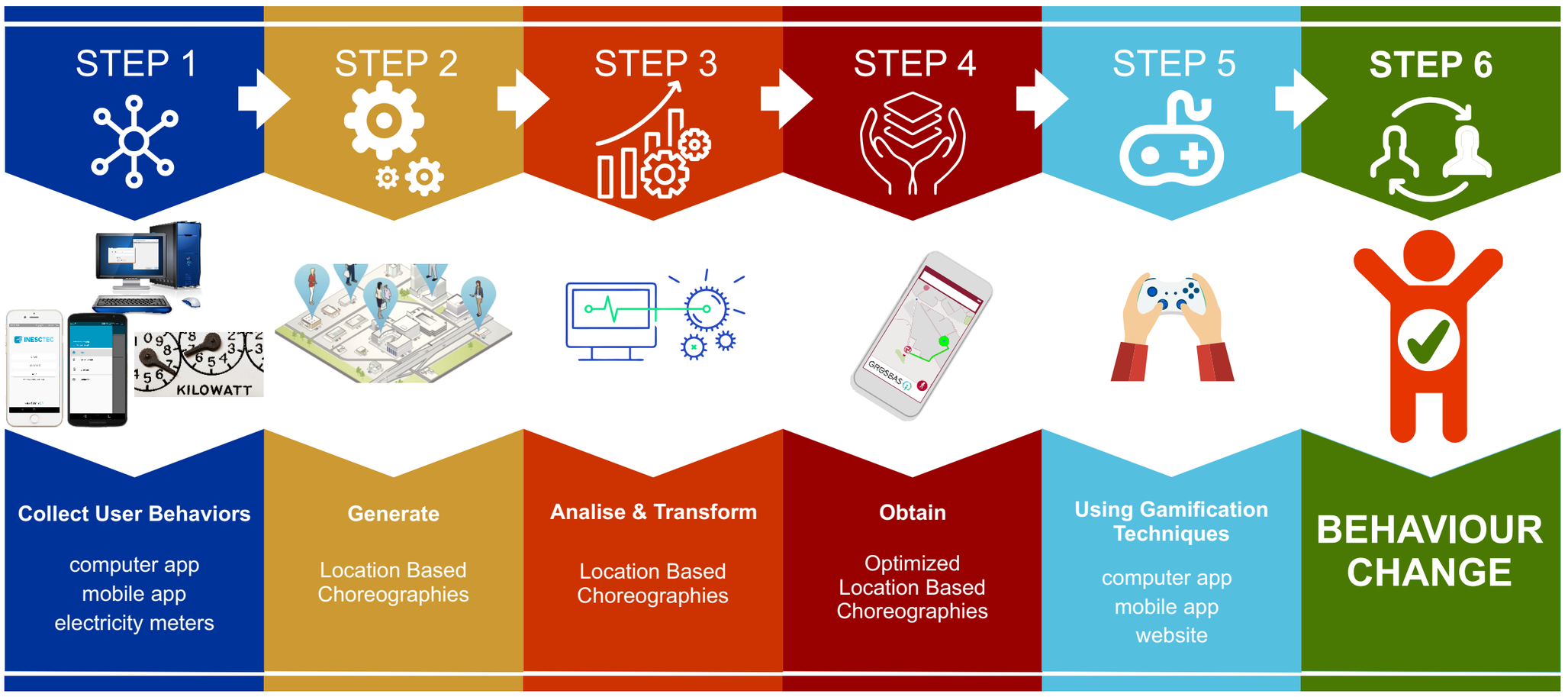
STEP 1
STEP 2
STEP 3
STEP 4
STEP 5
STEP 6
INESCTEC
KILOWATT
GREASAS
Collect User Behaviors
computer app
mobile app
electricity meters
Generate
Location Based
Choreographies
Analise & Transform
Location Based
Choreographies
Obtain
Optimized
Location Based
Choreographies
Using Gamification Techniques
computer app
mobile app
website
BEHAVIOUR CHANGE