1. Smart meters happening

Smart meters implementation programme – data – puts consumers in control – deadline – what happens – data is there – what can we do with it? – we record it, mine the raw big data sets to produce useful information.

1. As a result, we can...

This project intends to provide an achievable, affordable and a minimal change required solution for people who live on their own by analysing and learning their specific trends and electricity consumption footprints. As an extension to that, notify someone if any unusual electricity consumption behaviour occurs.

1. How you intend to achieve what you stated in part b

This project will make use of clustering and regression as its basic technique of analysing pre-existing open source electricity usage data sets. The results from which will be used to investigate if a deviation from norm has been experienced.

The worldwide widespread of smart meters means more understandable workable data will be produced for every specific household. In the UK the smart meter bill was passed on the 28th of November 2017 and the implementation of which will lead to raw electricity consumption data being produced and used to bill and charge more efficiently. This data can be mined, analysed and worked with for more than just producing efficient bills and smarter readings.

This project intends to provide an achievable, affordable and a minimal change or resource implementation required solution for people by analysing their electricity data and extracting specific trends and electricity consumption footprints. Every person has different routines and lifestyles which impact and reflect a different electricity usage trend. Learning those trends can be useful to make a judgement or sense if something is unusual.

This will be done by using data mining techniques such as Clustering and regression. These techniques will be applied on pre-existing open source electricity usage data sets, the results from which will be used to investigate if a deviation from norm has been experienced. Where norm is a customised trend for every household. As an extension to that, the program will choose to notify someone if any unusual electricity consumption behaviour occurs that is a deviation enough from norm to be considered suspicious.

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will be produced for every specific household. In the UK the smart meter bill was passed on the 28th of November 2017 and the implementation of which will lead to raw electricity consumption data being produced and hence used to measure usage more efficiently. This data can be mined and analysed for more than just producing efficient bills and smarter readings.This project intends to provide an achievable, affordable and a minimal change or resource implementation required solution for people by analysing their electricity data and extracting specific trends and electricity consumption footprints. Every person has different routines and lifestyles which impact and reflect a different electricity usage trend. Learning those trends can be useful to make a judgement or sense if something is unusual.   
This will be done by using data mining techniques such as Clustering and regression. These techniques will be applied on pre-existing open source electricity usage data sets, the results from which will be used to investigate if a deviation from norm has been experienced. Where norm is a customised trend for every household. As an extension to that, the program will choose to notify someone if any unusual electricity consumption behaviour occurs that is a deviation enough from norm to be considered suspicious.

Client audience motivation:

Although many simpler methods like motion sensors and infrared light can be used to easily monitor movement in a specified area. The electricity usage data is readily available for every house and the required data is being recorded but going to waste.

A scenario in which this project can be well translated into will be for a senior, independent person living on their own. Problems like getting around the house and doing daily chores etc can become a struggle at their age and accidents often happen. They can fall over or hurt themselves and with no one around, this can escalate into a grave matter.

Electricity consumption data collected over a specific period can be analysed to derive trends which can then be compared to everyday usage to categorise the data as either normal or abnormal

Abnormalities being anything like an electricity spike not being shown roughly at around 7pm when the inhabitant uses the kettle for their evening tea

When abnormalities as such are visible, the system can choose to notify a user of the unusual occurrence in the data pattern.

In simple terms, this project aspires to implement a system that is capable of noticing abnormalities and deviations from normal trends in electricity consumption entries.

In case of any unfortunate events, the ability of the program to notify personnel makes