Jaswinder Lota

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Bilateral Meetings

- Wednesday (10:00am - 12:00pm)
- Wednesday (12:00pm - 2:00pm)
- Wednesday (2:00pm - 4:00pm)
- Wednesday (4:00pm - 6:00pm)
- Thursday (10:00am - 12:00pm)
- Thursday (12:00pm - 2:00pm)

Description
University
Organization Type
University
Organization Size
Yes, I need a Congress & Trade Fair Pass Discount Code

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Areas of Activities

SMART SOCIETY

1. Citizen services
2. education
3. engagement
4. apps for society
5. aging city
6. social well-being

TECHNOLOGY

1. Services integration
2. city platform
3. sensors
4. Internet of things cloud

5. high technology
6. public safety

ENERGY

1. renewables
2. ICT
3. electricity

MOBILITY

1. Intelligent transport systems
2. mobility on demand

Idea

Intelligent Care Management for Encouraging Independent Living Amongst Elderly People

Over the last century there has been a gradual increase in the life expectancy rates of people living in Europe, which in turn has led to more elderly people in the society. It has also been predicted that 25% of the European population will be made up of people aged over 65.

The proposed work addresses the challenges associated with the design of current health care systems by developing innovative techniques for integrating care models that are closely structured to the needs of elderly which will not only empower the elderly patient, but it will also give them the opportunity to lead an independent life within a home environment. In order to maintain the well being of an elderly person it is important that they are able to perform daily tasks such as cooking, dressing and toileting. This is also something that was recognised by gerontologists in 1963, who have developed a detailed lists of activities that should be carried out by elderly people on a daily basis. These lists of activities are known as Activities of Daily Living (ADL), such as personal hygiene, dressing, eating, and functional movement. The ability to monitor everyday ADLs in a ubiquitous environment is seen as a key approach for tracking functional decline among elderly people. The monitoring of activities promotes the ability to shift from a reactive to proactive approach when it comes to providing support to elderly people to improve quality of life.

Existing telecare systems are very much dependent on the patients or carers inputting important information into the system. Self-report of such behaviour can be problematic due to bias and participant burden. Useful information about the safety and healthy wellbeing of an elderly person cannot only help them lead an independent life but can also allow the possibility of instituting safeguards given a potential harmful scenario. The proposed work aims to go beyond the current state of art in tele-health and tele-care systems by developing an approach that is a cost effective unobtrusive intelligent system that works seamlessly with existing health care services. This is based on establishing a reliable inference engine for unobtrusively monitoring and identifying behaviours of the elderly person. The home environment is used to capture features that will help infer behavioural patterns of the patient within the home. These features will be captured using non-intrusive sensors that will not compromise the privacy of an elderly patient. This behavioural information will be inferred by an intelligent decision support system, which will help facilitate monitoring of patient status, patient activity and compliance with prescribed therapies.

Cooperation Offered

1. Technical co-operation

Cooperation Requested

1. Technical co-operation
2. Investment/Financing

Idea

Integrated Health Care for Smart Cities-Asthma Monitoring & Compliance

The aim is to develop and implement design of a patient-centric mobile asthma management system (PC-MAMS) with high performance diagnostics for enabling delivery of health care in community home care settings. This novel approach would offer a paradigm shift by bringing personalised health care to the patient with proactive monitoring rather than the patient, having to approach the general practitioner (GP)/hospital, often after the onset of a medical condition; thereby offering not only timely diagnosis, but also considerable time and cost savings for the patient and the health service provider. The PC-MAMS would enable online diagnosis for asthma management by enabling spirometry test, measuring peak expiratory flow, quantity of exhaled nitric oxide and the volatile organic compound mixture composition. Clinical studies have shown that measuring these parameters simultaneously with statistical analysis leads to a far higher diagnostic performance as compared to in isolation. The PC-MAMS would enable remote monitoring of patient's asthma health over the wide-area wireless network and employing a cloud based patient decision support system (PDSS) to offer diagnostic solutions the patient in a home environment. The system would also be employed within hospitals offering GPs/consultants considerable flexibility in terms of mobile proactive monitoring of asthma patients.

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Cooperation Requested

1. Technical co-operation
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Idea

Novel crowd sensing for IoT in Smart Cities

Local authorities often face a daunting task of coordination with other local bodies such as Police, National Health Service (NHS) and local businesses including residents during local events such as marches, parades, demonstrations and sporting events. Coordination between these entities and the event organisers/marshals for effective crowd control and traffic management for various closure routes is complicated due to the crowd density and its geographical distribution which are dynamic in nature. The Smart Cities Event Management with Internet of Things (SCEMIoT) would enable efficient coordination by linking up real-time information to all stake holders for a given event. A real-time

pedestrian and vehicular counting system mapped on the required area would enable identifying the hot spots of high volume of people and vehicles enabling effective coordination.

•Average time of people in streets.

•Differentiating between residents (frequent reoccurring data) and visitors (random data).

•Walking habits of people in malls with average time spent indicating shopping habits with time of the day which would be very useful for retail.

•Accurate distance travelled by pedestrians and vehicles.

•Ensuring efficient flow of pedestrians as airports, stadiums and shopping centres the vehicular management would be efficient by reducing the journey times and saving energy.

•By tapping into the main server data can lead to other applications for Big Data such as development of new business models for consumer behaviour.

•Assist in identifying solutions across sectors such as social care, transport and housing.