Technology Offer

An embedded Augmented Reality Vision system, guided by pointing gesture recognition.

Summary

A Spanish research Group with a wide information and communication technology (ICT) industry collaboration experience at Embedded Electronic Systems for e-Health sectors, has developed and designed a new Augmented Reality Vision system for embedded systems. It is guided by pointing gesture recognition and is focused on e-health and medical sector operation. Group is offering a knowledge transfer and project collaboration of the mentioned system to set up a technological cooperation agreement

Expiration Date	28 February 2017
Reference	TOES20151228003
Profile link	

Details

Description

At present, the great majority of current Augmented Reality (AR) applications are built using general purpose processors as development platforms where the processing tasks are executed in software. However, software execution is not always the best solution for the high intensive requirements of the many processing tasks involved in AR, and it inevitably constrains frame rate and latency, which compromises real time operation, and magnifies size and power consumption, hindering mobility.

Since there are many situations in industries where workers can not operate using hands and need a fast gesture interface to see and map information in real time in a AR fashion, a Spanish research group with a wide information and communication technology (ICT) experience at Embedded Electronic Systems for e-Health sector, has developed and designed a new Augmented Reality Vision system for embedded systems.

The Augmented Reality (AR) applications developed are based on Field-programmable Gate Array (FPGA) platoform. This system is characterized by the following features:

- Frame grabber. With the aim of processing video it has been developed a frame grabber which accepts standard analogue video signal, converts it into digital and stores it in memory.
- General purpose of the user interface is to give flexibility and versatility, and to ensure fast re-design of the hardware architecture for enhanced or new applications. The core is made up of hardware components and software functions in different levels. Thanks to the core it is possible to present text information in a Video Graphic Array (VGA) monitor to the user, who can navigate through menus, select options and configure parameters by means of a pointer device. So, it provides the flexibility of adapting the systems to the user requirements or preferences allowing:
- Display of text and text fonts

- A pointing device. Including gesture recognizing techniques
- Generation of video signals. The platform can generate signals for displaying video on monitors and analogical screens. The generation of the synchronization and RGB signals for a VGA monitor is carried out by the VGA generator module, which can be configured to generate different resolutions.

The research group has successfully validated the usefulness of the described platform in an application for people affected by a visual disorder known as tunnel vision. It consists in the loss of the peripheral vision, while retaining clear and high resolution central vision. It is like looking through a keyhole.

Therefore, the developed system allows not only display of text and images but also can give workers new vision control of many camera features. For example: zoom in, zoom out , focus, face recognition,… and in case of special cameras it can be adapted to infrared ,thermal or other kind of vision systems.

Concerning end-user applications, they are wide and the research group expects that will be fostered with the deployment of several light AR glasses nowadays, already in prototype, like Google´s.

The research group is offering a knowledge transfer and project collaboration of the mentioned system, in order to close a technological cooperation agreement.

Advantages and Innovations

Compared to traditional solutions of current Augmented Reality (AR) applications are built using general purpose processors as development platforms where the processing tasks are executed in software. However, software execution is not always the best solution for the high intensive requirements of the many processing tasks involved in AR, and it inevitably constrains frame rate and latency, which compromises real time operation, and magnifies size and power consumption, hindering mobility.

Stage of Development

Already on the market

IPR Status

Other

Profile Origin

Other

Keywords

Technology

01003007	Computer Technology/Graphics, Meta Computing
01003018	User Interfaces, Usability

01004001	Applications for Health
01006012	Description Image/Video Computing

Market

01006002	Mobile communications, pagers and cellular radio
02002002	Graphics systems
02007002	Database and file management
05007007	Other medical/health related (not elsewhere classified)
07001007	Other leisure and recreational products and services

NACE

P.85.5.9	Other education n.e.c.

Open for EOI : Yes

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

0

Already Engaged in Trans-National Cooperation

No.

Languages Spoken

English
Spanish

Client Country

Spain

Partner Sought

Type and Role of Partner Sought

- Type of partner sought:Industry
- Specific area of activity of the partner: System is guided by pointing gesture recognition and is focused to e-health and medical sector operation
- Task to be performed by the partner sought:Technical cooperation agreement.

Type of Partnership Considered

Technical cooperation agreement

Technology Offer

Turkish company offers interactive and gamified learning application for companies and educational institutions.

Summary

A Turkish SME has developed a new application for smart phones and computers using interactive gamification techniques for learning. The product is a gamified version that helps retaining information and knowledge that has been given during training. This product is especially suitable for Y-Generation employees. The company is looking for partners for technical cooperation agreements and commercial agreements with technical assistance for further use and development.

Expiration Date 14 March 2017
Reference TOTR20150604001
Profile link

Details

Description

A Turkish SME has developed a platform in the field of game based learning systems. The application is a gamified quiz platform that targets Y-generation employees of companies. It can be located and used as information retaining tool for all trainings. With more than 10 different challenges stages in each level, tournaments, duels and leaderboard features, this application makes learning more fun and effective. The application can be used both mobile and personal computer platforms. It also has management platform. By using this platform companies can manage users, questions and reach detailed analysis regarding effectiveness of trainings and users learning progress. Additionally, with duel and tournament features, employees work with or compete with each other in friendly platform. Spaced repetition and feedback loops are vital to all types of learning, and these powerful techniques are incorporated into the entire platform. The product is a cloud-based platform. Training can be launched and users can be easily managed with just a few clicks through admin panel therefore application is user friendly. In addition to this, training based or user based detailed analysis are available on admin panel to manage their training programs effectively and intelligently. The product is available on the market and has been using by some big companies in Turkey. The company is looking for partners for technical cooperation agreements and commercial agreements with technical assistance for further use and development.

Advantages and Innovations

*The company has great experience in this field of gamification and game based learning systems.
*The company has worked with biggest Turkish companies and already tested its product.
*The main benefit of using this applications is that companies can get better efficiency from their employees in the training sessions.
*The application can help to enhance effectiveness of company employee after orientation or any specific training section by asking specific and enjoyable questions. Questions can be easily modified by company.

Stage of Development

Already on the market

IPR Status

Secret Know-how,Patent(s) applied for but not yet granted

Profile Origin

Private (in-house) research

Keywords

Technology

01004012	Operation Planning and Scheduler System
01004014	Serious Games
01005002	E-Learning
11002	Education and Training

Market

02007007	Applications software
07001003	Toys and electronic games

NACE

P.85.2.0	Primary education
P.85.3.2	Technical and vocational secondary education
P.85.5.9	Other education n.e.c.
P.85.6.0	Educational support activities
R.90.0.2	Support activities to performing arts

Open for EOI : Yes

Dissemination

Send to Sector Group

ICT Industry and Services

Client

Type and Size of Organisation Behind the Profile

Industry SME 11-49

Year Established

2005

Turnover

1 - 10M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

English

Client Country

Turkey

Partner Sought

Type and Role of Partner Sought

- Type of partner sought: The product is suitable for companies and entities such as hospitals, banks, public institutions, educational facilities, sport centers. The potential partners should integrated the product in company training section. The company is looking for long-term reliable partners.

- Specific area of activity of the partner: The application will mostly suitable for companies who makes training sessions periodically. Companies who manages many employee could be potential buyers of this product.

The company is looking for partners for technical cooperation agreements (for the development of the application to be used in various fields) and commercial agreements with technical assistance for further use and development.

Type and Size of Partner Sought

SME 11-50,>500 MNE,251-500,SME 51-250

Type of Partnership Considered

Commercial agreement with technical assistance
Technical cooperation agreement