Optimizing Discrete-Event Management Systems For Arranging Events

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Abstract- *In this paper we are going to investigate the application of Supervisory Control of Discrete Event System (SCDES) to the management and control of a Custom Power Park (CPP). The heterogeneous nature of upcoming devices and equipment in CPP require advanced control methods to ensure the integrity and reliability under different operational states. A solution to achieve appropriate controllability, while avoiding complexity, is to sub-divide the control problem based on event-triggered dynamics where the occurrence of specific events could change the state of the system. This idea is employed to formulate the problem of coordination of the devices in a CPP and develop a systematic method to design a supervisory control based on the theory of SCDES. Three modular supervisors are synthesized using the TCT software and simulated using the Simulink. The proposed methodology could be applied to several control problems in micro grids.*

Keywords- Custom Power Park, SCDES: - Supervisory Control of Discrete Event System.

I. INTRODUCTION

As per new technology discovered we are going to minimize man afford towards managing some kind of Events. Here we have various modules which are going to deals with the managing customer and employee information, managing events information, managing services, e-card creation and Event management website for status check. The first module of the project, Customer information deals with handling all the information regarding a customer and Employee information deals with handling all the information regarding an employee. At last 2nd module is concerned about managing events information. Third module manages the services associated with the events .Fourth module is e-card creation and the fifth one is customer check status through Event Management website. The database of customer information consists of information regarding a customer which includes personal information, and date of entering information. The database of employee information consists of information regarding an employee which includes personal information and its skills. The database of event information deals with information regarding event such as type of events, the type of package selected and the employee and customer associated with that event. Database covers large area of information related to event details. Customer check status website retrieves all database related to events from event details database.

II. EXISTING SYSTEM

In the present scenario, existing system has many drawbacks which make it inefficient to carry on with it. The present working system of the referred company is manual. As we know taking record for such kind of event driven management for long term business is very difficult and quite time consuming so here we are going to introduced very efficient and quite simple software which leads to a very simple environment of event driven management. As far as quality is concerned it is ok but not as good when handled using computerized system. Now the inefficiency of the existing system can be stated in terms as follows:-The manually handled system is time consuming. Data security is not assured. It is difficult to maintain records in long run. Large number of manpower is required. It is hectic to handle huge transaction.

III. RELATED WORK

In the past few years, the research has proposed many new rehabilitation processes and technique at the hospital as well as home. All the researchers agreed with rehabilitation application (i.e., events information) should be adapted to the actual status and capability of the patient. The difficulty level of the game should be maintained. Moreover, there are lots of events information available in the market, but not all of them support rehabilitation only few of them are suitable for it. So the related work on rehabilitation of patients is done in a very proper way and to handle it efficiently.

Computerised cognitive function test batteries typically include measurement of: -

- Reaction times (Simple reaction time, Choice reaction time)

- Working memory (Immediate word or picture recognition)
- Episodic secondary memory (Delayed word or picture recognition)
- Spatial working memory (Windows test)
- Executive function (Digit vigilance test)
- Measurements: speed and accuracy.

Fig.No.1.Rehabilitation Concept in Event Management.

GOALS AND OBJECTIVES:-

It is working on the basis of these words:

a. S—Specific
b. M—Measurable
c. A—Attainable
d. R—Relevant
e. T—Time based

These words made the system very efficient and very proficient in current trends and technology while the older system may be error prone and most unsafe machine for playing events information but this new featured gaming platform is new and tested very well utilized.

IV. PROPOSED SYSTEM

THE PROPOSED SOLUTION:

- Events informationand novel technology may be effective in optimising engagement.
- We have developed several events informationupper limb post stroke rehabilitation which use novel technology.

The proposed system is computerized and has been developed using advance language therefore it gives more facilities than present system. It provides quick access to any data. In this system user have to enter the data only once and then it get linked with all files. This reduces the workload of user and it is also a time saving process. The information about any event can be easily retrieved. The system maintains all records easy. The proposed system consists of packages such as Silver, Golden and Platinum, e-card distribution, DJ service and soon and updating the records at regular interval. Now a day's, the events such as festivals, wedding etc. have become a core part of life which has resulted in event planning and Management Company to rise. Day by Day increase in customer and their events laid a huge burden on event handler which is quite tough work. Managing various tasks and planning for employees, customer, location, transport and more. With the help of this technology, the distance between customer and management team has reduced with the Smart Web access.

V. ARCHITECTURE

Here we use Angular JS as a front end developing tools which is open source and most secure one in recent era.And next we use NoSQL as a Db where we are going to store all query and records made by customer also it is capable to store updated data. In the administrator mode all the options of the system will be activated. Inserting, Updating and deletion of details will be done in this mode.The system provides various options like viewing, adding, updating, deleting and report generation for customer and employee details. After the administrator login, administrator can enter customer and employee details. He can manage events information and manage events services. The administrator enters all service information such as location, transport, decoration, catering and Dj.

The customer then uses event id and customer id for checking status of events on event management website. The data is fetched from event information and event detail database of event management.

1. As we seen below how customer will make an order as a service. Using database we can take their entry in to our DB for further management.
2. Here we are going to see how to add record when order is recorded once customer make any transaction regarding events. Here every customer directly interact with message broker which is just a medium through customer can make any order easily.
3. Here we see how the order created as event and how credit events reserved for making required arrangement.
4. Final view how final arrangement will be made by us uses this program according to their registered dates and events.

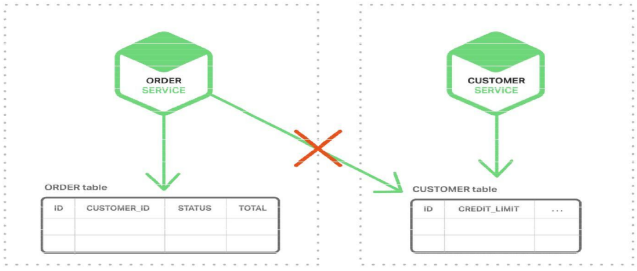

Fig.1.Data Storage

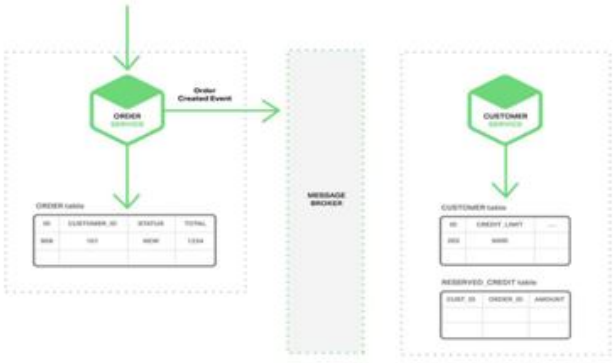

Fig.2.Data Distribution

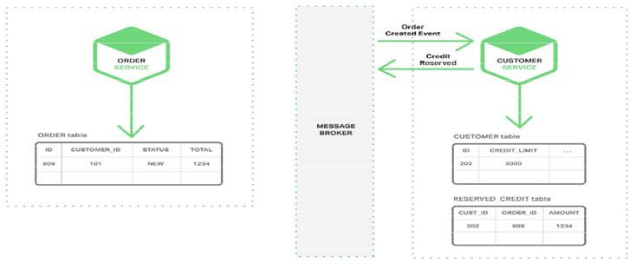

Fig.3.Data arrangement display

System Overall architecture

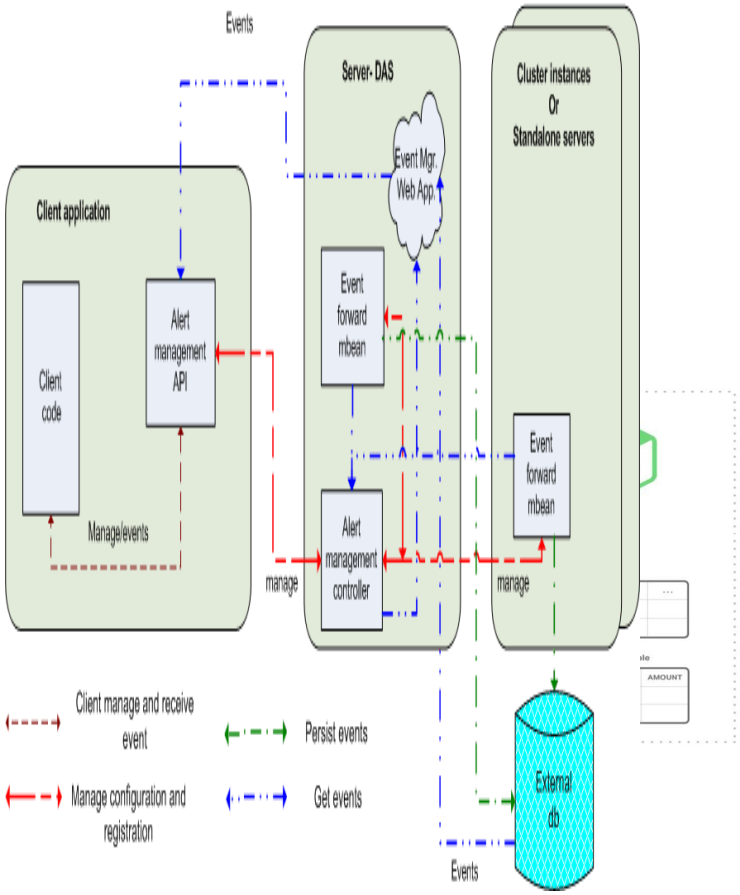

Fig.4.Architecture of Event Management

VI. HARDWARE REQUIREMENT

a) SYSTEM PENTIUM IV 2.4 GHZ
b) HARD DISK 40 GB
c) FLOPPY DRIVE 1.44 MB
d) RAM 512MB

VI. SOFTWARE REQUIREMENT

a) SOFTWARE RESOURCES REQUIRED
b) OPERATING SYSTEM: WINDOWS XP/7/8/8.1
c) IDE: ECLIPSE
d) PROGRAMMING LANGUAGES: JAVA
e) DATABASE: ORACLE
f) WEBSITE SERVER: ORACLE SERVER

MERITS & DEMERITS

1. This is an automated application where system automatically fetches the desired result from the

database without any interaction from the administrator.

2. It has a simple interface, it has predefined format for searching, if user types the searching information in a wrong format for better understanding. It also provides high level security through SQL using secure authentication. Cost transaction can be easily maintained.

3. It is not suitable for mobile and any other handheld device. It has limited number of module.

LOW-COST INPUT HARDWARE

Our framework is very flexible in that it integrates a wide variety of devices and supports visual, audio, pressure, and haptic interfaces. In fact, the patient station supports the Sony PlayStation Eye camera27, the Microsoft Kinect camera, the Wii Balance Board, and two haptic devices: the Omni Phantom28 and the Novint Falcon. All these input devices are interfaced with the game engine through the Input Abstraction Layer described here above.

The Sony PlayStation Eye is a high performance RGB camera. An efficient background subtraction algorithm and a reliable identification of the hands position has been developed and adopted to extract from the video stream a robust coloured silhouette of the patient. The camera is used as an input device in augmented reality Events and it's management, projecting the mirror image of the patient into the game environment. The patient can use her upper body to interact with the game objects.

The Wii Balance Board is a pressure platform equipped with four pressure sensors at its corners that allows locating the projection of the centre of mass of the body of the player. It has already been used as an input device for rehabilitation of posture and balance. The board is integrated in our framework through the open-source Wii Yourself library.

The Omni Phantom and the Novint Falcon are three dimensional haptic devices. They present an end effector that can be moved by the user and used as a three-dimensional pointer. The devices provide fully configurable and programmable dynamic force feedback, providing us with a mean to create several kinds of force perturbations or aids to the patient.

The Microsoft Kinect includes in a single device a 640x480 RGB camera, a 320x240 depth camera and a four microphones array. Contrary to most commercially available depth cameras, the Kinect has a low cost as it was developed for the gaming market. Using the Software Development Kit (SDK) providedby Microsoft, we can find the position of the patient in the room in real-time and obtain a representation of her skeleton as a set of 20 ordered points, with no need for an initial calibration phase. From these points, the 3D orientation of the segments representing the bones of the patient can be estimated. These data can be used also to monitor and assess the movement and the posture of the patient.

- 3D Skeletal Animation with Kinect

The orientations estimated with the Kinect camera can be mapped to an avatar that can therefore be moved in real-time replicating the patient's movements, as seen in figure 3a. However, this mapping is not trivial. We first compute the However, this mapping is not trivial. We first compute the 3D position of the 20 points identified on the body using the Microsoft Kinect SDK API, we then link these points in pairs according to their hierarchy inside the skeleton, creating a skeleton with 1bones. Each bone i has a starting point P at 0 and i for each of these bones, we define a joint the following calculation.

vi-1=[0 1 0]

q"= [[,0 V i- ,1 1] 0 Vi V i-I i-1 Vi]

q' = i-I' i-I X i-I [Vi, y ;IY' V;

q" + 1 q' / Iq'l

eg...performance RGB camera.

Starting from the root joint and moving towards the endpoints we compute the orientation of all the segments. In particular, for each bony segment, we update the reference system associated to joint Ji, Si, to use with its children joint. To this aim, we apply the quaternion rotations backwards through the joint chain, as seen in equation 2. Note that the orientation of the hip joint, selected as being the root joint, is set to be the world's up.

RiRiii-I °

C = i' qi-l .qi-2 ... qc (2)

We have developed a C++ library for the estimation of the orientations of the joints. In order to do vector and quaternion math, we have also implemented our own functions. During the creation of this library, we encountered a

few problems. The first problem laid in the different coordinate systems of the 3D applications we have integrated with the Kinect SDK functions: Blender and Panda3D. Blender and Panda3D share the same coordinate system, with a right handed, Z-up reference. Kinect SDK, on the other hand, works with a right-handed, Y-up reference system. For this reason, we had to make sure that the positions in the skeleton space of Kinect would be correctly transferred to Panda3D and therefore to Blender. We thus included a transformation matrix inside our code, reported in equation 3.

1 00
0 01
0 -1 0(3)

We also had to solve issues with the exporter of Blender for Panda3D, which creates .egg files, readable by the game engine, from blender meshes. Exploring the need to procedurally animate the joints of the rigged character, we realized that the root of the exported armature, when exposed through Panda3D built-in functions, erroneously rotated its reference system 90 around the positive X axis, introducing a 90-degrees pitch, basically switching to a Y-up system. We solved this problem by adding a -90 pitch to the armature in Blender and by restoring the correct pitch in the Panda3D scene. The orientation data we gather is used as input for the animation of a three-dimensional avatar inside our Events and it's management. The avatar is built with an armature that mimics the skeleton obtained from the Microsoft Kinect SDK. In particular, it must be noted that the spine joint is positioned behind the hip joint and that the left and right shoulder joints do not form a classic T-pose with the mid shoulder joint. For these reason, using the orientation data with a skinned character not specifically designed for Kinect would result in wrong animations. The hierarchy is maintained inside the skeleton, so that we can directly assign the quaternions returned by our C++ library to the bones of the avatar.

VII. CONCLUSION

High-end 3D events information have supported the autonomous rehabilitation at home with the support of IGER functionalities. The rehabilitation has got more dynamic, safe and effective. It controls the computational intelligence methods, providing the monitoring of gameplay and the player action and also to maintain the difficulty level of the events information, so that the result is effective. Moreover, the devices which are used are low-cost tracking devices. It builds a platform which is based on IGER very low-cost and its deployment is possible. The IGER has always been a fruitful and a much better platform for rehabilitation and not only at this level, but also in serious gaming domain it is exploited very well.

VIII. ACKNOWLEDGEMENT

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