

Research on Health Management System Based on Clouding Computing

Qi Luo^(✉) and Tianbiao Zhang

College of Sports Engineering and Information Technology,
Wuhan Sports University, Wuhan 430079, China
ccnu_luo2008@126.com

Abstract. Cloud computing involves deploying groups of remote servers and software networks that allow centralized data storage and online access to computer services or resources. The health management system based on clouding computing was proposed in the paper. The system is composed of the following modules such as client module, expert module, healthy management organizations module, accumulated points and rank management module, task listing and evaluation module, cloud server network platform module. Though application in the system, the individual user data has no longer stored in the medical institution, but the individual user data has stored in the cloud server, which can be accessed anytime and anywhere. A large number of servers are composed of statistical and learning distributed platform. Behavior information and physical data can be extracted from the mass data automatically, which can be output factors and standardization of physical data. The same type of samples is extracted, which can achieve a group of experts and users by many-to-many model. Health standards databases are constructed though bidirectional user and expert evaluation. The system is an open and interactive system among user, health management organization and expert.

1 Introduction

The health management system (HMS) is an evolutionary medicine regulative process proposed by Nicholas Humphrey in which actuarial assessment of fitness and economic-type cost-benefit analysis determines the body's regulation of its physiology and health. This incorporation of cost-benefit calculations into body regulation provides a science grounded approach to mind-body phenomena such as placebos that are otherwise not explainable by low level, noneconomic, and purely feedback based homeostatic or allostatic theories [1, 2].

Many medical symptoms such as inflammation, fever, pain, sickness behavior, or morning sickness have an evolutionary medicine function of enabling the body to protect, heal or restore itself from injury, infection or other physiological disruption.

The deployment of self-treatments have costs as well as benefits with the result that evolution has selected management processes in the brain such that self-treatments are used only when they provide an overall cost benefit advantage. The brain controls such physiological process through top down regulation.

External treatment and the availability of support is factored into the health management system's cost benefit assessment as to whether to deploy or not an evolved self-treatment.

Placebos are explained as the result of false information about the availability of external treatment and support that mislead the health management system into not deploying evolved self-treatments. This results in the placebo suppression of medical symptoms.

Based on it, The health management system based on clouding computing was proposed in the paper. The system is composed of the following modules such as client module, expert module, healthy management organizations module, accumulated points and rank management module, task listing and evaluation module, cloud server network platform module. Client module includes users logging management module and user behavior information acquisition device. Expert module includes expert logging management module and Experts program assistant editing module. Healthy management organizations module includes healthy management organizations logging management module, healthy management organizations and healthy management organizations assistant editing module. Task listing and evaluation module includes task listing module, task pool, task evaluation module, standardization program output module, and emergency module. Cloud server network platform module includes behavior and information identity module, physical information identity module, standard program database and system basic task generating module.

2 Cloud Computing

Cloud computing is a computing term or metaphor that evolved in the late 2000 s, based on utility and consumption of computing resources. Cloud computing involves deploying groups of remote servers and software networks that allow centralized data storage and online access to computer services or resources. Clouds can be classified as public, private or hybrid.

Cloud computing relies on sharing of resources to achieve coherence and economies of scale, similar to a utility (like the electricity grid) over a network. At the foundation of cloud computing is the broader concept of converged infrastructure and shared services [3].

Cloud computing, or in simpler shorthand just “the cloud”, also focuses on maximizing the effectiveness of the shared resources. Cloud resources are usually not only shared by multiple users but are also dynamically reallocated per demand. This can work for allocating resources to users. For example, a cloud computer facility that serves European users during European business hours with a specific application (e.g., email) may reallocate the same resources to serve North American users during North America’s business hours with a different application (e.g., a web server). This approach should maximize the use of computing power thus reducing environmental damage as well since less power, air conditioning, rack space, etc. are required for a variety of functions. With cloud computing, multiple users can access a single server to retrieve and update their data without purchasing licenses for different applications.

The term “moving to cloud” also refers to an organization moving away from a traditional CAPEX model (buy the dedicated hardware and depreciate it over a period of time) to the OPEX model (use a shared cloud infrastructure and pay as one uses it).

Proponents claim that cloud computing allows companies to avoid upfront infrastructure costs, and focus on projects that differentiate their businesses instead of on infrastructure. Proponents also claim that cloud computing allows enterprises to get their applications up and running faster, with improved manageability and less maintenance, and enables IT to more rapidly adjust resources to meet fluctuating and unpredictable business demand. Cloud providers typically use a “pay as you go” model. This can lead to unexpectedly high charges if administrators do not adapt to the cloud pricing model [4, 5].

The present availability of high-capacity networks, low-cost computers and storage devices as well as the widespread adoption of hardware virtualization, service-oriented architecture, and autonomic and utility computing have led to a growth in cloud computing. Companies can scale up as computing needs increase and then scale down again as demands decrease.

Cloud vendors are experiencing growth rates of 50 % per annum. Figure 1 is the structure of cloud computing.

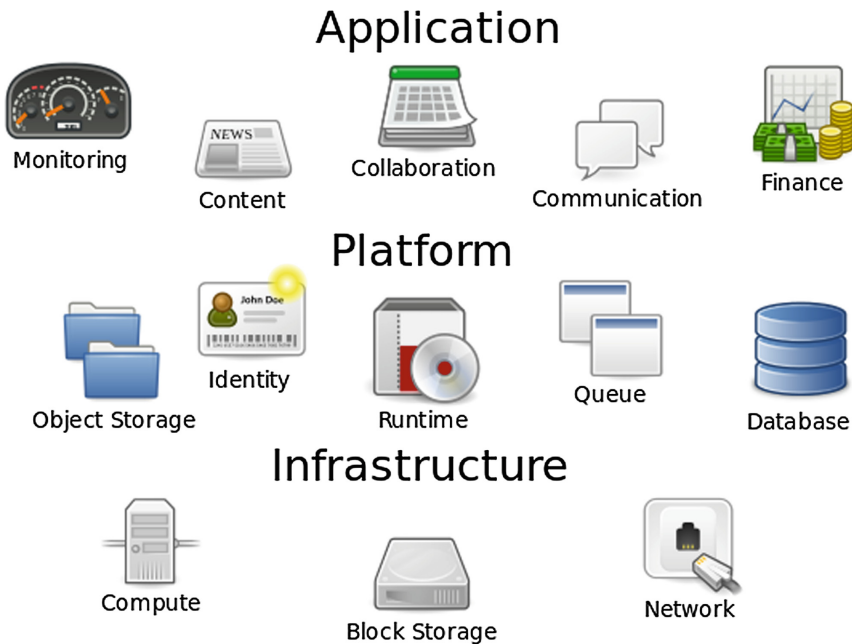


Fig. 1. The structure of cloud computing

3 Health Management System Based on Clouding Computing

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The structure of the system is Fig. 2.

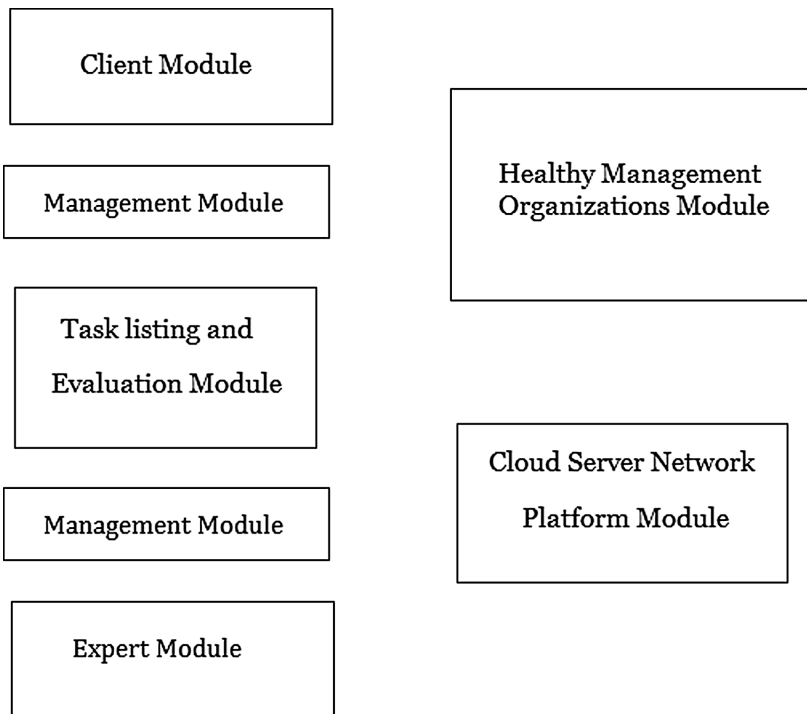


Fig. 2. The structure of the system

4 Conclusions

Though application in the system, the individual user data has no longer stored in the medical institution, but the individual user data has stored in the cloud server, which can be accessed anytime and anywhere. A large number of servers are composed of statistical and learning distributed platform. Behavior information and physical data can be extracted from the mass data automatically, which can be output factors and standardization of physical data. The same type of samples is extracted, which can

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