

# Software Implementation of Online Higher Education Philosophy Development Platform Based on Multi-Port Interconnected EEG Integrated Data

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**Abstract:** This paper introduces the design and implementation of a new type of EEG signal acquisition card based on PCI bus and DSP processor. Using the excellent on-chip processing capability and interface communication capability of ADSP2106x, the link interface between DSP and A/D converter is designed. The true appeal of higher philosophical education and the inner call of life growth are the realistic basis for its establishment. The improvement of training quality and the realization of the potential of life development all require the establishment of the philosophy of higher education of life theory. Through the SD card storage circuit, the collected EEG signals can be saved to the SD card for easy transfer.

**Keywords:** Software Implementation, Online Higher Education, Philosophy Development Platform, Multi-Port Interconnected EEG

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## 1. INTRODUCTION

The brain function tester studies the activity of human brain nerve cells by recording the curve of the electrical activity of the two hemispheres of the brain [1], and has a wide range of applications in clinical diagnosis and physiological research. For example, the application of EEG can diagnose intracranial space-occupying lesions [2], epilepsy, realize acupuncture observation and conduct research on aviation physiology [3]. Brubeck believes that there are two main higher education philosophies on how universities establish themselves. One is Philosophy is mainly based on epistemology, another philosophy is based on political theory [4].

The philosophy of higher education based on epistemology pursues the role and purpose of knowledge in the spirit of "leisure curiosity" [5]. For those who hold this view, education is undoubtedly the process of exploring the world through curiosity, which may be the development of knowledge itself. Question [6]. After the Second World War, the popularization of higher education in the United States exposed many problems, and was deeply caught in the "ontology crisis" and "legal crisis" [7], and American higher education was constantly questioned by the society. John S Brubacher innovated in thinking, looked at the problems exposed by American higher education from the perspective of higher education philosophy [8], and wrote the book "Philosophy of Higher Education", which is not only the author of more than 50 years of work experience the conclusion of this paper also opened a new situation for the philosophical research of American education [9]. American higher education philosopher Brubeck believes that political theory and epistemology are the two major philosophical foundations for the legitimate existence of higher education [10]. However, in views based on "political theory" and "epistemology", the complexity of human life is either ignored or misunderstood [11].

To this end, we should break through the "two-point theory" and reinterpret the relationship between higher education [12] and the development of human life. It is in this sense that the philosophical view of higher education of "vital theory" is

ready to emerge and has entered our research field of vision [13]. For a philosophy of higher education, EEG signals are recorded by electrodes and describe various life activities of brain cells. As a non-invasive detection method, it involves many fields [14], such as neurophysiology, psychology, social psychology, cognitive science, and neuroengineering. Due to the technical limitations at the time, only preliminary visual analysis was performed on the EEG at that time [15]. The EEG signal was a weak signal with high internal resistance (tens of microvolts to a hundred microvolts), and the high-precision synchronized biological amplifier was used. (NeroTOP amplifier) [16], after synchronous amplification and filtering, it is converted into an analog voltage signal of about a few volts. The EEG signal acquisition card based on PCI bus collects and processes these signals in real time [17], and uploads the original data and processing results to the PC for graphic display and database storage for further analysis and processing and pathological file management [18], to seek the juncture of the two philosophies. The "Wisconsin Thought" is probably the earliest example of the coexistence of these two theories. The University of Wisconsin successfully applied purely theoretical research to identify [19] political goals and indicate the most effective ways to achieve them, thus truly serving the community and serving the goal of society has created a new idea of running a school [20].

According to Brubeck's point of view, the establishment of modern universities is mainly based on epistemology and political theory [21]. The former tends to "take the pursuit of knowledge in the spirit of 'leisure curiosity' as its goal". They always believe that the pursuit of advanced knowledge is the reason for the existence of universities, and objectivity is an unshakable principle. Otherwise, universities will not be able to resist the erosion of politicization, and will eventually face "academic devaluation" [22]. The latter hold a different view, they believe that the existence of universities is not limited to the pursuit of advanced knowledge. The first is a philosophical retrospective of life [23], exploring its rich connotations from the three dimensions of species characteristics, multiplicity and significance. The second is

based on the various realistic demands of society, higher education and people's own development, improving people's individual life and social life through advanced knowledge, enriching people's spiritual life, cultural life and academic life, and finally pointing to the realization of value life. More than ten years ago, the scene of mind-moving objects that only appeared on the screen, if it really appeared in real life, many people would definitely deny it. However, such a thing did happen [24].

## 2. THE PROPOSED METHODOLOGY

### 2.1 The Multi-Port Interconnected EEG Integrated Data

At present, there are many EEG features in clinical diagnosis that have been recognized by EEG physicians, such as abnormal EEG manifestations of epileptic seizures. Compared with the traditional bus, the PCI bus has many unique advantages, and is constantly improving and developing. PCI bus is a 32/64-bit address and data multiplexing bus independent of microprocessor, supports burst transfer, and the highest transfer rate can reach 132MB/s. This feature is independent of the processor, which makes the PCI bus have good I/O characteristics. According to this principle, the International Electroencephalography Society has developed a standard electrode installation method. The so-called 10-20 system [30] refers to the connection of the nasal root and the true crooked tuberosity in the sagittal position, and the connection of the nasal root, the external ear foramen and the external occipital tuberculus in the coronal position, and the midpoint is the top of the head, Cz. Divide the two lines into 2 10% and 4 20% each by Cz. The electrode positions are chosen such that each electrode is 10% or 20% of the distance from the adjacent electrode. The real-time processing task of EEG signal is completed by high-performance 32-bit floating point digital signal processor ADSP2106x. Compared with the same type of DSP processors, ADSP2106x's unique super Harvard structure (SHARC structure) makes it have higher computing speed and data transfer rate.

### 2.2 The Higher Education Philosophy Development Platform

In Brubeck's view, the main reason why the university can guarantee the quality of the advanced knowledge it disseminates is the academic autonomy of the university. The university itself has absolute independence in terms of academics. It is not subject to the influence of the government and society, and has the ultimate control over its own academic activities. It follows the logic of epistemology to deduce that since the existence of the university is to pursue advanced knowledge, these knowledge Beyond ordinary knowledge, then, only those teachers who possess advanced knowledge can manage its affairs, because they "know better than others who is qualified to be a professor." The existentialist philosopher Heidegger believed that human existence itself means the inevitability of freedom means the encounter with the "other". In this process, people fully develop their possibility of being "being" and enjoy the freedom of being as "being".

Higher education gives people the ability and motivation to realize themselves, and then endows life itself with meaning. In addition to imparting knowledge and skills, education also develops people's emotions and will, and adapts to society on the basis of guiding individuals to achieve free choice. We have built the hardware part, and the main thing that remains is the program. By introducing the embedded real-time

operating system, we can analyze each task, and add the FAT32 file system to complete the overall coordinated operation. This section will be discussed in detail later. This system undoubtedly protects the academic freedom of professors, which is similar to the tenure system of judges, and can guarantee that professors will not face financial retaliation when they express relevant attitudes.

In history, there are not a few people who are opposed to vocational education. Brubeck quoted the views of Aristotle, Newman and others to illustrate. In his view, the all-round development of people requires both general education and more Professional education, the two cannot be separated, if professional education is excluded from the high wall of the university. The multiplicity of life is mainly reflected in the dynamic changes of human existence and the richness of connotation. "Human life is a multi-level and multi-faceted integration, which has physical, psychological, social, material, spiritual, behavioral, cognitive, and value needs." [3] In In the special field of higher education, the existence of life at the spiritual, cultural and ideological levels should arouse our attention. Life is a spiritual existence.

### 2.3 The Software Realization of Higher Education Philosophy Development Platform

ENCODE is the clock control signal of AD1671, its signal frequency determines the sampling rate of AD1671, the highest frequency is 1.25MHz. At the rising edge of the ENCODE signal, AD1671 starts the analog-to-digital conversion. After the conversion is completed, the DAV signal is pulled high, and the corresponding conversion result is placed on the data line BIT[110]. With the differentiation of the dissemination objects of advanced knowledge and the differentiation of advanced knowledge itself, general education and professional education, the training methods and goals of higher education have also been adjusted accordingly, and it is impossible for anyone to become an encyclopedic saint who knows everything.

Such tasks are time-consuming and labor-intensive for educational structures. It can be seen from the above that the foundation of political theory has never been interrupted in my country's higher education, but the foundation of epistemology is in an intermittent state. If we divide the time when the two are dominant according to a certain proportion, the time when the philosophical foundation of political theory is dominant is much longer than the time when the philosophical foundation of epistemology is dominant. We should cultivate our sentiments and improve our personality in a rich spiritual life. It is the spirituality rooted in the soul that enables human life to break through the limited physical space and time and become a transcendent existence. As a reflection of the school-running tradition and cultural accumulation, the university spirit, with its unique soul and temperament, plays the function of cohesion, belonging and cultural education, making the university a place for students to seek life value. Embedded real-time operating system is the traditional front/background It is produced when the program development mechanism cannot meet modern needs, and its English abbreviation is RTOS (Real Time Operation System).

It is equivalent to a time-sharing operating system. The two have different requirements for program execution time. The time-sharing operating system allows time deviation, but the real-time operating system has very strict time requirements, and the program must ensure that the time is determined at a certain time. complete the corresponding tasks. After my

country's higher education has experienced a large-scale expansion of enrollment, facing the various impacts of the social transformation period, more and more problems have begun to be exposed. Due to the needs of social and economic development, people have lost confidence in universities.

### 3. CONCLUSIONS

The powerful data processing function, high-speed multi-channel data acquisition function and excellent data communication function of this acquisition card greatly facilitate the development and use of users. Moreover, the host computer can dynamically load the DSP program. "Life Theory" not only pays attention to the influence and guidance of teachers on students' lives, but also pays attention to the common development and improvement of teachers' and students' lives, thereby further stimulating individuals in higher education in self-awareness, self-awareness and self-awareness.

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