



Development of College Students' Innovation and Entrepreneurship Information Platform Based on Computer Technology

Yawen Meng¹, Shufang Ding², Yi Hu³

^{1 2 3}JiangXi Tourism&Commerce Vocational College, Nanchang, Jiangxi, 330100, China

*Corresponding author's e-mail: qgjxzb@163.com¹

*Corresponding author's e-mail: 1179488697@qq.com²

*Corresponding author's e-mail: 835471877@qq.com³

ABSTRACT

At present, China has entered an innovation-driven era. The society's expectations for high-quality innovative and entrepreneurial enterprises are getting higher and higher, and many people's enthusiasm for innovation and entrepreneurship has been ignited. In today's market, there is a great need for an information support platform for innovation and entrepreneurship to help college students attract investment and improve the execution efficiency and success rate of innovation and entrepreneurship projects. This paper constructs an innovation and entrepreneurship information platform for college students. The innovation and entrepreneurship platform uses Internet crawler technology, Java development language and active problem recommendation method to integrate resources, investment and services. This platform can provide users with a lot of information and connection methods about innovation and entrepreneurship, and conduct mining and analysis on current market trends.

Keywords: *Internet; innovation and entrepreneurship; development platform*

1. INTRODUCTION

Nowadays, the economic market is developing rapidly, and the competition among enterprises is becoming more and more fierce. In this era, only enterprises with high-quality innovation capabilities can succeed. College students often have innovative ideas in the process of learning, but due to financial constraints, lack of innovation and entrepreneurship channels, and lack of understanding of the market, college students' innovation and entrepreneurship projects often fail [4]. In order to encourage college students to give full play to their innovative ideas, carry out entrepreneurial activities, help college students review innovation and entrepreneurship projects, and attract investment, an efficient innovation and entrepreneurship information platform is very necessary. Now many colleges and universities often hold some offline innovation and entrepreneurship activities to help college students learn innovation and entrepreneurship knowledge and get in touch with enterprises [1]. However, offline platforms have many limitations in information sharing, support efficiency and operation methods. In order to give full

play to the innovation and entrepreneurship ability of college students, we need an efficient, Internet-based online platform for innovation and entrepreneurship that can mine and analyze information. The innovation and entrepreneurship platform can help college students integrate information resources, establish projects, apply for projects, finance, and supervise implementation, improve the success probability of innovation and entrepreneurship projects, and ensure the convenient and efficient operation of innovation and entrepreneurship projects [3].

2. PROBLEMS FACED BY COLLEGE STUDENTS IN INNOVATION AND ENTREPRENEURSHIP

2.1. Colleges and universities pay little attention to it

Nowadays, the Internet has been very popular in China, but the teaching thinking of some universities has not been updated. Innovation and entrepreneurship projects have become a very popular part of the market

today, but many universities still do not realize the importance of innovation and entrepreneurship for college students. At present, many universities do not provide encouragement and financial support for college students' innovation and entrepreneurship projects. Many colleges and universities do not teach students about innovation and entrepreneurship in their teaching. In this context, it is difficult for students to understand the steps and hot topics of innovation and entrepreneurship. Now the failure rate of college students' innovation and entrepreneurship is high because colleges and universities do not pay attention to it. Some other universities have offered innovation and entrepreneurship courses, but such courses are only teaching students' textbooks, but not the practical teaching part. Students' theoretical knowledge and practice cannot be combined, which finally leads to the failure of students' innovation and entrepreneurship.

2.2. The service capacity of the innovation and entrepreneurship information platform is not high

The key to the innovation and entrepreneurship platform is to screen information, update information and output information. At present, the innovation and entrepreneurship platforms in the market cannot timely update the market information with the in-depth communication of the platform users. Innovation and entrepreneurship platforms have high requirements for information immediacy, and many current innovation and entrepreneurship platforms cannot do this.

3. SYSTEM REQUIREMENTS ANALYSIS

The goal of building an innovation and entrepreneurship platform is to provide users with a full range of efficient and accurate support. The platform should provide users with the first type of services for innovation and entrepreneurship, such as data support for innovation and entrepreneurship projects, gathering professional talents, sharing enterprise management experience, providing financing channels, and so on. In order to meet the needs of users, the system is divided into six functional modules, namely information review, data collection, resource sharing, project development, discussion community, and supporting services [5].

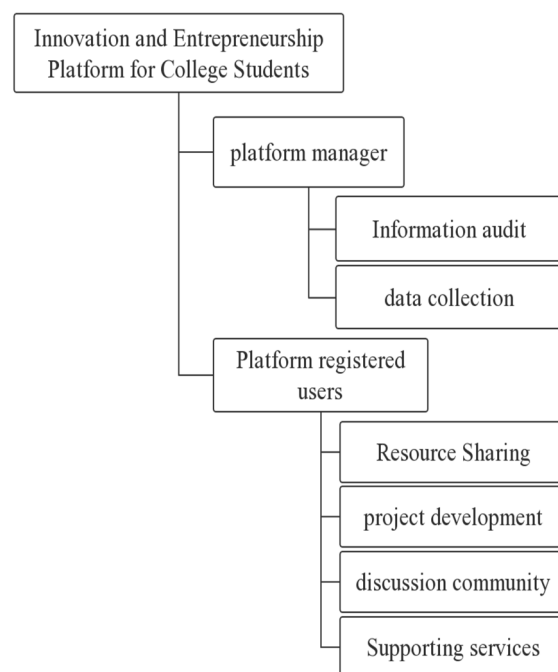


Figure 1: System function modules

The information auditing module mainly audits user information, project information and authentication information [9]. If you are an ordinary user, you only need to upload user information. If you are an innovative entrepreneur who initiated a project, you need to upload project information. If you are an enterprise manager or investor, you need to upload information such as industry resource providers and service resource providers [10].

The data collection module mainly collects market dynamic information, policy updates and patent-related information on the network through web crawlers.

The resource sharing module supports all users to share information, which can be industrial resource information, learning resources, policy information, innovation and entrepreneurship activity information and so on [13].

The users of the project development module are project development users, enterprise users and investor users. The project development module is the key module of the platform. In this module, project developers can upload patent information, apply for project financing, upload project development progress, manage projects, and more. Enterprise users and investor users can inquire about relevant patents, contact project developers, evaluate projects, apply for investment, supervise projects, etc. in this module [7].

The project development module is the bridge between the project developer and the project investor. All users in the discussion community can initiate questions and discuss with other users. This module will

also push hot kiss questions to encourage more people to participate in the discussion.

The supporting service module is mainly to provide users with services related to the development of innovative and entrepreneurial projects. Users can contact related companies through the contact information in this module [8].

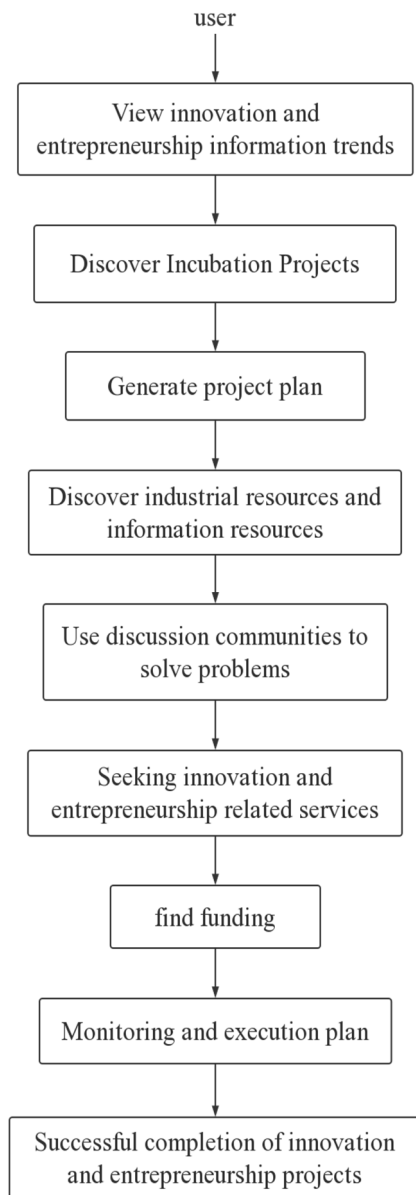


Figure 2: User Flowchart

4. SYSTEM ARCHITECTURE

The software architecture of the innovation and entrepreneurship platform for college students is divided into two parts: server and client [6]. The server interacts with Internet data information and the system disk in the cloud server, and the client interacts with the system

disk and data disk in the cloud server. The software architecture of the platform is shown in Figure 2.

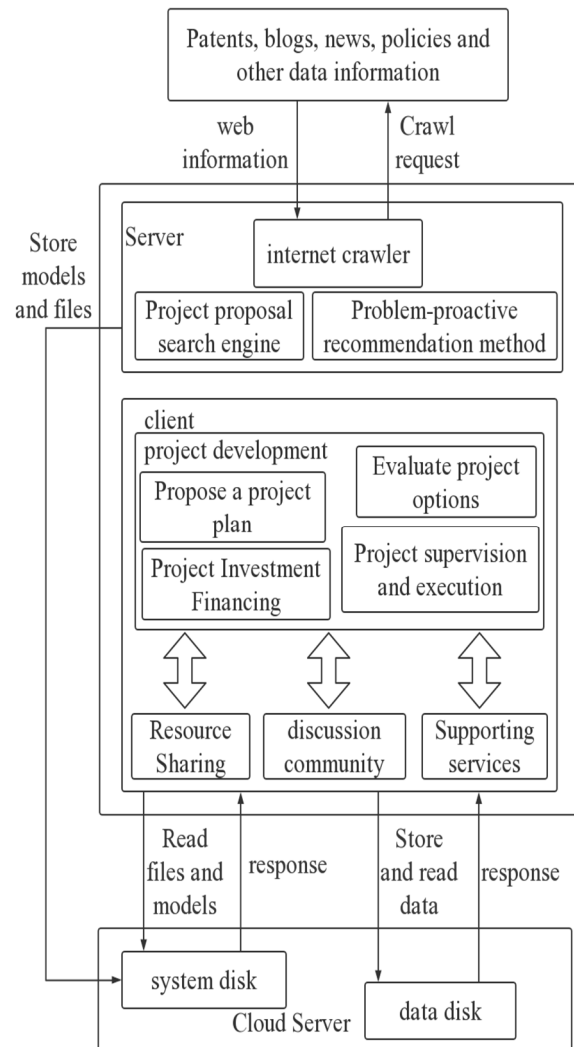


Figure 3: Platform software architecture diagram

The innovation and entrepreneurship platform for college students is logically divided into four layers, namely presentation layer, application layer, service layer and data layer. The platform logic architecture is shown in Figure 3.

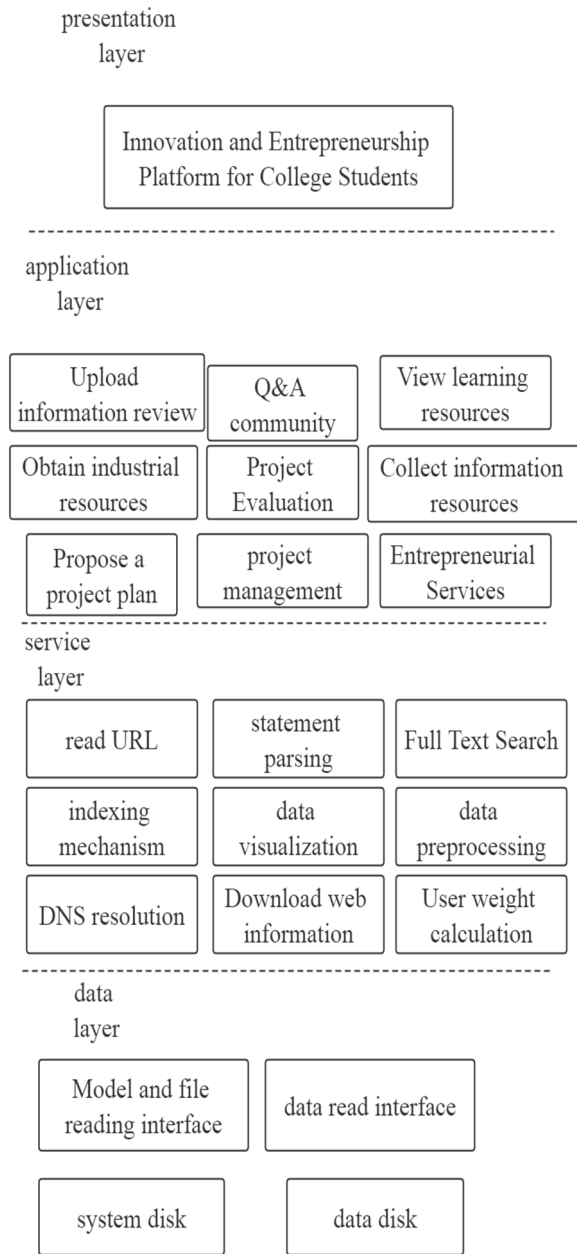


Figure 4: Platform logic architecture diagram

5. SYSTEM KEY DESIGN

5.1. Data collection method

The data collection method of this platform is mainly web crawler. Web crawlers use Jsoup framework to directly parse URL addresses, HTML text strings, and HTML files, and retrieve and manipulate data through DOM operation methods. The platform administrator will start the crawler in the data collection module, display the updated statistical information of the current consultation, policy, news and other data, and obtain the latest Internet data [11]. Finally, the system will store the crawling results processed by the Jsoup selector in the search index in order. Due to the large amount of web pages on the Internet, it is impossible for a single

crawling program to complete the task of data collection, so the system needs to build multiple crawling programs to process together. A dedicated Master server can maintain a queue of URLs to be crawled, and assign URLs to different Slave servers. The Slave server can be responsible for downloading web pages [15].

5.2. Active recommendation method for questions

The active question recommendation method can push some questions that are closer to the topics of interest to users, attracting users to answer and discuss. The focus of the problem-based active recommendation method is to calculate the authority of the user. Construct a user question and answer graph $G=(U, R)$, and each node $u_i \in U$ in the graph is represented as a user. Each directional edge $r_{ij} \in r$ in the graph represents the question-answer interaction between users u_i and u_j [14]. The user authority can be calculated by adding the analysis of user behavior from the question and answer graph. User behavior includes answering questions, being selected as the best answer, liking, and disliking. From this, it can be concluded that the calculation formula for calculating the user weight is as follows:

$$Auth(u_i, c) = \frac{1 - d}{N} + d \times \sum_{j=1}^n \left(\frac{w_{u_j, u_i}}{\sum w_{u_j}} \times Auth(u_j, c) \right)$$

In the formula, $Auth(u_i, c)$ represents the authority value of user u_i in question category c , N represents the total number of users, w_{u_j, u_i} represents the weight of the link from user u_j to user u_i , and $\sum w_{u_j}$ represents the sum of the link weights from user u_j to all users.

Using this formula, the answers to the questions can be sorted by weight to improve the user experience.

6. THE VALUE OF THE PLATFORM

The innovation and entrepreneurship platform created in this paper focuses on the realization of the innovative ideas of college students. In this platform, it can attract a large number of users, so that the innovative ideas of college students can get accordingly. The extensive participation of the network public can enable college students to improve their own innovative ideas according to the views of different groups, and finally build a complete innovative work. Among this platform, the most important thing is scientific and technological innovation. This platform uses enterprises to motivate innovators. Innovation cases in the platform can be shown to all users to watch, and such cases can encourage college students to make innovation and start businesses. The establishment of successful cases and discussion communities can provide an effective reputation and feedback mechanism

for innovative creators. Effective reputation and feedback mechanisms can increase user engagement and contribution. Through the discussion area, users can also answer difficult questions, sorted by the weight of the answers. Among the answers, the accepted answers will be at the top. This challenge can attract many users to contribute their own only ones. Some capable people and those who dare to challenge will realize their value and gain satisfaction by answering difficult questions. The recognition of the user's answer is affirming the user's ability, which is a strong incentive for many users.

The platform encourages college students to contribute their own innovative ideas to the platform through an innovative incentive mechanism. This platform can help many college students realize their dreams and life values.

7. CONCLUSION

This paper builds an innovation and entrepreneurship platform for college students in detail. In the process of research and development, the needs of users are fully considered, and the method of calculating user weights is used to determine the sorting method of user questions and answers, which improves the user experience and practicability of the platform. This platform can provide college students, enterprises and investors with an opportunity to exchange innovation and entrepreneurship projects, improve the success rate of college students' innovation and entrepreneurship, and help companies find high-quality talents.

ACKNOWLEDGMENT

2021 key Project of Teaching Reform Tasks for Institutions of Higher learning in Jiangxi Province

Grant No. JXJG-21-55-2

Practice Study of the Course in Innovation and Entrepreneurship for Vocational College Students under the background of “ ideological and Political Curriculum “, An Integration of Major and Entrepreneurship Education Perspective

-----A Case Study of Jiangxi Tourism and Commerce College

REFERENCES

- [1] Anran Li, Chenxi Wen , Jiahao Yu. Study on the Value Dimension and the Integration Path of Ideological and Political Education in College Students' Innovation and Entrepreneurship Education[J]. International Journal of Social Science and Education Research,2021,4(9).
- [2] Accenture; Accenture Helps Zydus Wellness Build an Enterprise Platform to Drive Digital Transformation[J]. Journal of Engineering,2020.
- [3] Amin Mahmoudi,Mohd Ridzwan Yaakub,Azuraliza Abu Bakar. The Relationship between Online Social Network Ties and User Attributes[J]. ACM Transactions on Knowledge Discovery from Data (TKDD),2019,13(3).
- [4] Chen Xiaojun, Zhu Guoqi. Practice and Construction of Maker Education Model by Integrating Innovation and Entrepreneurship Contests[J]. Innovative education research,2021,09(05).
- [5] Chuanxu Cheng, Jingxin Cao. Design of Undergraduate Innovation and Entrepreneurship Ability Evaluation System[J]. International Core Journal of Engineering,2021,7(7).
- [6] Chin-Hui Lai,Yu-Chieh Chang. Document recommendation based on the analysis of group trust and user weightings[J]. Journal of Information Science,2019,45(6).
- [7] Gupta Swati,Singh Ravi S.,Vasant Umare D.,Saxena Vijit. User defined weight based budget and deadline constrained workflow scheduling in cloud[J]. Concurrency and Computation: Practice and Experience,2021,33(24).
- [8] HARMAN; HARMAN Launches AccuAlertMe - An Enterprise Platform to Enable Workplace Safety for Employees and Visitors[J]. Medical Letter on the CDC & FDA,2020.
- [9] HongWei Liu,Liu HongWei. University Enterprise Innovation Cooperation Platform Construction Considering Computer Multi-dimensional Dynamic Innovation Mode[J]. Journal of Physics: Conference Series,2020,1578(1).
- [10] Jiang Shuhao, Zhang Yong, Wang Mengqian. Research and Practice on the Integration of Innovation and Entrepreneurship Education and Ideological and Political Education[J]. Vocational Education,2021,11(01).
- [11] Schaeffer Paola Rucker,Guerrero Maribel,Fischer Bruno Brandão. Mutualism in ecosystems of innovation and entrepreneurship: A bidirectional perspective on universities' linkages[J]. Journal of Business Research,2021,134.
- [12] SME Platforms as Business Models: A User-Centric Activity-System Approach[J]. Cuadernos de Administración,2019,35(64).
- [13] Xu Youhong, Chen Jinjuan, Zhou Yun. Research on the Talent Cultivation Model of Innovation and Entrepreneurship Education in Higher Vocational Colleges from the Perspective of “Double Creation”[J]. Education progress,2021,11(06).

- [14] Yi Yan, Chen Jianping, Song Bo, Xia Xinhai. Implementation and Evaluation Model of Innovation and Entrepreneurship Education Courses for Transportation Talents in Greater Bay Area, Guangdong, Hong Kong and Macao[J]. Innovative education research,2022,10(01).
- [15] Zhou Qiangqiang. Research on the Problems and Countermeasures of the Cultivation of Adult College Students' Innovation and Entrepreneurship Ability in the Internet Era[J]. Open Access Library Journal,2021,08(07).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

