

Analysis on the Promotion and Operation Strategy of Garbage Classification App in Colleges and Universities—Take a University in Nanchang as an Example

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Abstract: It is a general trend to implement garbage classification. However, through a questionnaire survey of colleges and universities in Jiangxi Province, we can find that: firstly, college students have a strong awareness of environmental protection, but the campus environment still needs to be improved; Secondly, popularizing garbage classification knowledge is particularly important for solving the problem of garbage classification in colleges and universities[1]; Thirdly, the school does not pay enough attention to and implement garbage classification; Fourthly, college students' awareness and action of garbage classification practice need to be improved, and a process is needed from knowledge to implementation and long-term persistence. It can be seen that garbage classification knowledge is important for the final successful implementation of garbage classification. Therefore, this study proposes a software dedicated to the teaching of garbage classification knowledge, hoping to help college students learn and practice garbage classification, and promote it, so as to benefit the realization of garbage classification nationwide and contribute to building a beautiful China.

1. Introduction

With the progress of the times, the importance of waste classification for ecological construction has been widely known. In 2017, the National Development and Reform Commission and the Ministry of Housing and Urban Rural Development issued the Implementation Plan of Domestic Waste Classification System, requiring 46 cities including Nanchang to implement domestic waste classification first. In June 2019, nine departments, including the Ministry of Housing and Urban Rural Development and the Ministry of Ecological Environment, jointly issued the Notice of the Ministry of Housing and Urban Rural Development and other departments on the Comprehensive Implementation of Domestic Waste Classification in Cities at and above the prefecture level nationwide, which proposed that by the end of 2020, 46 key cities, which are pilot cities, should basically build a waste classification and treatment system. [2]In order to implement the important directive spirit of the General Secretary on the classification of domestic waste and the directive requirements of the provincial party committee and provincial government on the classification of domestic waste, Jiangxi Provincial Department of Education issued the Implementation Plan for the Classification and Reduction of Domestic Waste in Schools in Jiangxi Province (Trial), which proposed to let teachers and students understand and master the methods of classification and treatment of domestic waste, advocate the reduction of campus waste, and promote the cultivation of good behavior norms of students.

At the same time, relevant research shows that relevant knowledge reserves have a significant impact on garbage classification behavior - after the relevant knowledge of garbage classification is understood to a certain extent, it can promote college students to correctly classify garbage. [3] However, the current efficient environmental education system still needs to be improved, and the relevant courses offered by some schools are not rich enough. College students' mastery of garbage classification knowledge and garbage classification behavior need to be improved. [4] Therefore, in order to improve the garbage classification behavior of college students, it is particularly important

to teach them garbage classification knowledge. Moreover, as the successors of the times, college students should master the garbage classification knowledge and correctly practice garbage classification, which is of far-reaching significance for the successful implementation of the garbage classification system and the construction of ecological civilization in China.

2. Analysis on the Classification of Domestic Garbage in Colleges and Universities

Colleges and universities are densely populated places. From the work, study and life of teachers and students, they produce a lot of garbage every day, and the task of garbage classification is heavy. [5]At the same time, college teachers and students, as high-quality people, have a fast understanding and acceptance of new things. In this study, the questionnaire analysis method was used to investigate students of different genders, majors and grades.

The influence of different factors on students' garbage was obtained through questionnaires. It can be divided into four aspects: garbage classification awareness, garbage classification knowledge, school factors, and popularity of garbage classification behavior.

2.1 Waste Classification Awareness

The average values of garbage classification willingness and importance awareness of the respondents are greater than 4, indicating that college students generally have strong environmental awareness and high comprehensive quality. The average satisfaction degree of campus environment is 3.6, and only 57% of the objects are satisfied with the campus environment, indicating that the campus environment needs to be improved.

2.2 Waste Classification Knowledge

The average knowledge level of the respondents is less than 4, and they do not fully understand the “low carbon” currently widely implemented. Only 38% of the respondents have a good knowledge of garbage classification, and their knowledge of relevant national policies needs to be improved. It shows that to solve the problem of garbage classification in colleges and universities, it is important to popularize garbage classification knowledge.

2.3 School Factors

The average degree of garbage classification related activities and facilities held by the school is less than 4, and only 46% of the respondents believe that the school is equipped with perfect garbage classification facilities, indicating that the school does not pay enough attention to garbage classification and implementation.

2.4 On the Point of View of Popularity of Garbage Classification Behavior

The awareness and action of garbage classification practice of the respondents need to be improved. They have realized the importance of garbage classification, but only 54% of students can consciously classify garbage, and 62% of students will persuade their friends and classmates to classify garbage. There is still a process from knowledge to implementation and long-term persistence.

3. General Situation of the Project

3.1 Project Overview

The project aims to efficiently teach users about garbage classification, improve their awareness of garbage classification, make them meet the relevant national requirements on garbage classification in recent years, and achieve the goal of garbage classification and recycling that benefits the whole country. This project focuses on the technology of mixed development, the environment mechanism of java language and android, and the ability of interaction design and UI design. It adopts the Native App model, and takes the core advantages of effectively teaching users' garbage classification knowledge, which is both public welfare, environmental protection,

practicality, enthusiasm, innovation, etc., to achieve the goal of maximizing social benefits and optimizing economic benefits. This project first takes a college student in Nanchang City, Jiangxi Province as the pilot object to explore the feasibility, applicability and expected use effect of the product among college students.

3.2 Product Overview

3.2.1 Product Introduction

The product takes social service as the service tenet and popularization of garbage classification knowledge as the purpose. This garbage classification APP is aimed at the general public. Through mobile APP (supported by PC client and mobile phone, Android system and Apple system), users can receive vivid, vivid and efficient garbage classification knowledge teaching to meet the relevant needs of users in the garbage classification era. This app uses the form of physical pictures and small games to teach, and encourages users to earn points in the form of passing, pk games, and learning to punch cards to exchange for gifts and consolidate what they have learned. The method of personal image text matching memory and professional course teaching is adopted for learning to clock in. In addition, the function of taking pictures is set to provide users with two services, namely, garbage classification knowledge learning and garbage classification retrieval. Set the function of photo identification to help users learn and solve specific garbage classification problems.

The feedback function is set for college students, who have strong learning ability, fast ability to accept new things and high knowledge level, so as to timely understand their demands on garbage sorting knowledge and suggestions for APP improvement. In addition, a public benefit points mall is set up to encourage college students to buy commodities related to garbage sorting, and part of the money earned is used for product publicity on campus to improve APP popularity, such as holding offline promotional activities for products in the APP mall, and directly exchanging offline gifts with APP points.

3.2.2 Product Technology Introduction

The product follows the hot topic of garbage classification. We mainly master the hybrid development technology and HTML5 and Native hybrid technology, are familiar with the environment mechanism of Java language and Android, and use the ability of interaction design and UI design to design the product. From the perspective of public welfare and convenience, it provides users with garbage classification knowledge learning and retrieval system, thus helping to improve the audience's awareness of garbage classification and environmental protection. In addition, the products are intelligent and high-quality to meet the needs of consumers at all levels. In addition, this product does not require high technical equipment. A smartphone can complete all operations. According to the survey of China Internet Information Center in 2019, the penetration rate of mobile Internet users in China has reached 99%. Therefore, this product has been widely promoted in the market with low cost and high efficiency. In colleges and universities with abundant electronic equipment, college students can use this product through smart phones, computers, ipads and other electronic devices, It can be seen that this product has obvious market competitive advantages.

3.2.3 Production and Operation Plan

The overall software design of this product is divided into three stages: initial design, refined design and design review. The team will arrange professional technicians to design this product. With regard to the advantage that team members are in a college in Nanchang, actively carry out online and offline publicity, open up publicity channels among colleges in Nanchang, and further expand product awareness. At the same time, the team regularly checks the promotion scope and use of the product, and collects college students' feedback on the use experience of the product, so as to do a good job in the follow-up improvement of the product. Due to the low demand for equipment, convenient publicity channels and other reasons, it is preliminarily estimated that the

cost of this product is low, so the revenue effect can be achieved by charging service fees for related network platforms in the later period.

3.3 Competitive Advantages

In colleges and universities, the provision of electronic equipment is relatively abundant. College students can use this product through multiple channels through a variety of electronic devices. Moreover, this product has diversified functions, is very convenient to use and promote on campus, has strong learning ability and high average quality, and has strong garbage classification awareness. With the support of many factors, this product has obvious advantages and high feasibility in the use and promotion of colleges and universities.

3.4 Market Strategy

Early stage: The team will design newspapers and contribute to the campus newspapers, carry out online and offline promotional activities, carry out a lot of publicity, gradually penetrate the college students in Nanchang, establish a user network, so that students can understand and accept the basic functions of this app as soon as possible;

Metaphase: consolidate the existing market, expand the tourist market, improve and perfect the user network, at the same time, further develop and improve the APP according to the feedback of college students, and develop more efficient promotion strategies compared with the early publicity plan, so as to prepare for efficient market expansion in the province and even the whole country;

Later stage: develop derivative products, and implement a series of public relations activities to further expand product benefits and popularity. The market strategy is formulated according to the use efficiency of this APP in colleges and universities, expanding the use scope of products from colleges and universities to the society, and bringing development to enterprises as much as possible. Enterprises make profits to expand production, promote each other, achieve economic growth, and finally lengthen the green environmental protection industry chain to help the national strategy. The project will be ready to change the development direction of the industry, constantly update and improve the APP according to a series of market tests, and make full use of its advantages to actively face the challenges and opportunities brought by the changes in national policies.

3.5 Investment and Financing Plan

3.5.1 Project Equity and Financing

As this project is a public welfare project, the pilot objects are college students in Nanchang City, and the costs incurred are relatively low. The basic project funds can be used to complete the basic operation of this project in the early stage.

After expanding the market, in general, the product cost mainly comes from the APP research cost, maintenance and upgrading cost, promotion and publicity cost, etc. The cost is not high, so we only set up appropriate advertising and public welfare points stores to reasonably earn APP development funds. Based on this, the team is required to accurately understand the cost budget of the company for future business development, do a good job in cash flow calculation, transfer part of the company's equity to raise the required funds, or let shareholders transfer part of the company's ownership on a voluntary basis, and finance through public and private offerings, taking into account the financing cycle.

3.5.2 Source of Funds

The total fund of the project is 1 million yuan, including 600000 yuan of government small loans; Internal financing and self accumulation of 250000 yuan; 50000 yuan from social organizations; Loan of 50,000 yuan from financial institutions; The venture capital is 50000 yuan.

4. Swot Analysis

4.1 Advantage Analysis

This app is designed to meet the requirements of the development of the times, and conforms to the user experience from multiple perspectives. It uses the form of physical pictures and small games to carry out teaching, encourages users to participate in PK competitions, meets the character characteristics of college students who dare to venture, and sets the function of photo identification to help users learn and solve specific garbage classification problems; The interesting and vivid features are more acceptable to college students, and the strong learning ability of student groups improves the feasibility of this app in colleges and universities.

4.2 Disadvantage Analysis

It is difficult to measure whether the quality of APP meets the requirements, and there are certain requirements for product development technology. However, for college students to use it, it is challenging to solve the problems of campus promotion and practical use.

4.3 Opportunity Analysis

At this stage, the publicity and education of garbage classification knowledge on campus in China is insufficient, and most students have very limited knowledge about the disposal of domestic garbage. This APP is dedicated to the teaching of garbage classification, aiming to teach people practical and useful garbage classification knowledge, help them complete garbage classification spontaneously and efficiently, meet their relevant needs in the garbage classification era, and maintain a clean and beautiful image in combination with the needs of colleges and universities, Therefore, the feasibility of product promotion is improved. In addition, the social concern about garbage classification is high, and college students, as “surfing” teenagers, have more opportunities to promote the products in colleges and universities.

4.4 Threat Analysis

With the development of Internet technology, mobile terminals for environmental protection emerge in endlessly. At present, there are a large number of garbage classification APPs in the market. Small programs launched by various platforms are also diluting the value of newly launched APPs of the same type. The product market is under great competition pressure.

5. App Outlook

In order to adapt to the changing complex environment, GCA will always pay attention to the trend of the times and the needs of users, so that repeated software learning can bring more green ideas to the environment, effectively teach residents' garbage classification knowledge, and make a contribution to the realization of garbage classification that benefits the whole country. GCA will become a green high-quality software that wins with quality, advances with the times, and makes outstanding contributions to the people, society and the country, so that GCA can help the garbage go home.^[6]

5.1 Conform to National Policies

As a product of the development of the times, GCA will bravely assume the responsibilities entrusted by the times and society, actively respond to the national policy call, implement the important directive spirit of garbage classification, and always keep pace with the national pace. In this process, we will also enjoy the dividend of national policies and enhance the competitiveness of software.

5.2 Focus on User Needs and Constantly Update and Improve

GCA will, based on the needs of users, regularly collate the feedback of users, carry out a series of public relations activities, solve the problems existing in the APP, and develop appropriate

derivatives according to the actual situation to meet the diversified needs of users.

5.3 Gradually Promote from Point to Surface

Taking a university in Jiangxi Province as a pilot to promote and run the software is only the starting point, and the final goal is to promote it to a wider range, in order to make a contribution to the final realization of the national garbage classification.

6. Conclusion

It is a general trend to implement garbage classification and practice sustainable development. In the current situation that the garbage classification in colleges and universities still needs to be improved, it is a wise move to promote the comprehensive implementation of garbage classification and contribute to building a beautiful China in the new era to help students carry out environmental education to enrich their garbage classification knowledge and improve their garbage classification awareness through relevant software.

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