

# Design and Implementation of Campus Carpool System based on Mobile Devices

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## Abstract

In today's world, the popularity of vehicles, a variety of ride-hitting software continues to break into people's world, but security issues and convenient problems with the emergence of a variety of ride-hitting software has been people's attention. The total size of all kinds of higher education schools in the country reached 38.33 million people, in such a huge base, China's taxi ownership reached 1.3889 million, which can be judged that college students travel pressure is very high. Thus want to establish the "Internet plus" campus carpooling platform -"stitching", promote the development of the carpooling industry at the same time optimize the experience of college students carpooling, to ensure the safety of college students carpooling travel. Campus carpooling platform - "Stitch" is a carpooling app system designed only for college students, it will be the number and personal information linked, to prevent the community's idle people and so on mixed into it. And because of the restrictions of school number and other conditions, passengers "stitch" to the car friends are students, greatly reducing the possibility of dangerous occurrence.

## Keywords

Campus Carpooling; Campus Security; Internet Plus; Wechat; Shared Travel.

## 1. Introduction

Carpooling is an emerging mode of travel. In the United States, many people will use such taxis, carpooling is to encourage and support low-carbon travel. This mode of travel is not only conducive to protecting the environment, but also conducive to alleviating urban traffic congestion. [1] Most colleges and universities are relatively remote and far away from the city center. The main travel force of college students basically relies on public transportation or Didi taxis. The inconvenience of public transportation causes customers to experience a lack of long-distance travel experience, but taxis are too expensive. Overburden situations. According to the actual situation, carpooling will gradually become the main choice for college students to travel remotely. Using carpooling not only saves time and improves travel efficiency, but also satisfies the customer experience. At the same time, multiple passengers share the price and reduce travel costs. A private car-pooling market will also be formed near the university town, and at the same time it will promote the development of the surrounding economy and increase the employment rate. [2] Therefore, the establishment of an "Internet +" campus carpooling platform enables college students to contact carpooling partners more safely and conveniently.

## 2. The Overall Design of the Campus Carpool System

### 2.1. System Construction

The "Internet +" campus carpooling platform is a public account based on the WeChat platform. As the most popular social platform today, WeChat has become an indispensable way of socializing in the life of contemporary college students. The interactive function template between carpool users and car pickup on the WeChat official account mainly depends on the

controls and adjustments made in the background. The system is based on a public relational database, and sends data to the PC client data server and mobile client data server through the server, realizing multi-state real-time sharing of carpool data. [3] In the operation of the data system, according to the real-name registration of carpooling drivers and carpooling users, the background data and personal data information can be completed for the detailed record. At the same time, it can be opened and operated, processed and closed at any time according to the needs of carpool users, and has multiple functions such as initial settings, system maintenance and GPS positioning. Through the control operation of multiple database files, the functions of query, entry, modification and deletion are realized.

## 2.2. Application Analysis

The "Internet +" campus carpooling platform is mainly to solve the safety problem of student carpooling, so it will cooperate with the formal taxi company to absorb its taxi drivers.

Compared with the traditional carpooling platform, the "Internet +" campus carpooling platform also has obvious advantages. Traditional carpooling platforms cannot truly satisfy carpool users due to problems such as high risk of black cars, long carpooling time, poor ride environment, integrity of private cars, imperfect intelligent background, complicated carpool routes, and trust between carpool strangers, etc. Demand. The "Internet+" campus carpooling platform serves the most concentrated users. It is aimed at college students traveling on campus, making it easy for college students to go home and returning to school, and it is beneficial to meet more alumni among college students, and the safety factor is greatly guaranteed.

## 3. Implementation Steps of Campus Carpooling System

### 3.1. Demand Data

Through reference to relevant domestic and foreign literature and in-depth research on student groups, to obtain the data required for Internet + campus carpooling.

### 3.2. Improve Platform Configuration

The construction of the "Internet +" campus carpooling platform is a systematic project involving a wide range of information and a large amount of information. It should be based on scientific, systematic, open and forward-looking principles to achieve high performance and high reliability of the database. At the same time, after each user's ride journey is completed, the system will collect user's ride satisfaction evaluation and users' suggestions for improvement of ride experience, clearly solve the defects of each ride sharing platform, and efficiently configure it on the "Internet +" campus ride sharing platform. "Internet +" campus carpooling platform is more feasible and long-term.

### 3.3. Application Practice

#### 3.3.1. Offline Promotion

The main users of the "Internet +" campus carpool platform are college students, so traditional publicity will be carried out on campus, such as: handing out flyers, posting advertisements, broadcasting in campus supermarkets (with the permission of the school), etc.

#### 3.3.2. Online Promotion

Various social networks and social media platforms will be used for publicity. Publish the latest information on Weibo, publish various types of videos on short video platforms, use WeChat Moments for publicity, increase fans and maintain old customers.

### **3.3.3. Student Drivers Achieve a Win-win Situation**

For students, in order to enjoy the comfort and speed of taxis, they often have to pay several times the cost of taking public transportation. However, the use of a carpooling platform can not only save taxi resources and travel environmentally, but also enable users to share the fare and be economical. The more carpoolers, the more money you can save. So as to provide campus students with a convenient, affordable and comfortable travel platform.

As for drivers, there are more and more people taking taxis, and most taxis can only carry one or two passengers, causing a waste of taxi resources. However, the "Internet +" campus car-sharing platform enables drivers to have a fixed passenger flow and at the same time reduces the fuel consumption cost of some retail customers for travel.

### **3.4. Maintain the Rights and Interests of Ride-sharing Drivers and Ride-sharing Users**

Based on the establishment of a credit rating system between Ride-sharing users and drivers, a good interactive interface is designed to make the interface smooth, brief and reasonably designed to apply to each module's functions, realize front-end and back-end links, and achieve mutual interaction between Ride-sharing users and drivers Inquire.

### **3.5. Expand the Audience through Professional Operations and Focus on the Benefits of "Returning Economy"**

The "Internet +" campus carpool platform is a special product with both tangible and intangible values. Its operations mainly include software development, software promotion, and software management. It is worth paying attention to the turning back economy in the process of software promotion and operation. The turning back economy is an important means in the Internet economy. The essence of the turning back economy is the application of professional business operations. The turning back economy will experience a transition from an attention economy to an influence economy, and then influence The sublimation of the power economy to the formation process of the turning back economy. The marketing strategy to find the right market is a prerequisite for the formation of the Internet economy. "Internet +" campus carpooling platform through professional operations to build a reputation brand is based on intangible assets as the main market research direction, WeChat public platform as the carrier, through cooperation, sponsorship, advertising and other forms, to enhance the creation of intangible assets to achieve a higher Good purpose of credibility, popularity, reputation and economic benefits. According to the actual market information, it finds the correct positioning, realizes the secondary consumption of the original consumers for their products, and transforms it into the market, so that the strong market competitive advantage of carpooling software meets the consumption needs of specific groups of people, increases the return economy, and promotes Sustainable development of the "Internet +" campus carpooling platform.

## **4. The Campus Carpool System is Convenient, Affordable and Comfortable**

The market share of the WeChat market is basically equivalent to that of smartphones, so that it is common for campus college students. The "Internet +" campus carpool platform is based on the WeChat official account, which is fast for users and convenient for campus travel. Based on information such as geographic location and time, the system's big data can intelligently and accurately match the most suitable carpool partners. Users can also share the official account with friends or circle of friends, and invite others to carpool together to achieve a fast travel mode; in terms of transportation, There are more and more people taking taxis, and most taxis can only carry one or two passengers, causing a waste of taxi resources. For passengers, in order to enjoy the comfort and speed of taxis, they often have to pay several times the cost of taking

public transportation. However, the use of a carpooling platform can not only save taxi resources and travel environmentally, but also enable users to share the fare and be economical. The more carpoolers, the more money you can save. So as to provide campus students with a convenient, affordable and comfortable travel platform.

## 5. School Carpooling Safety

At present, carpooling software is well-known for carpooling, carpooling, Dida carpooling, carpooling, AA carpooling, carpooling, etc. The basic idea is to contact car owners and ride-hailing passengers in the society. They all have a problem, that is, trust. This kind of trust is not the payment trust of funds, but the mutual trust between carpoolers and car owners. For example, carpool passengers and drivers do not know the identity of each other, which may bring about personal and property safety issues that may arise during the ride. In the market segment, the trust problem also exists, but it can be solved through certification and registration. Students, through the school student number, class information to achieve confirmation and certification. Agents (companies) that provide chartered car services must provide relevant company business licenses, vehicle driving permits, ID cards and other relevant materials for review and confirmation. [4] The "Internet +" campus carpooling platform based on the WeChat system is established. It is aimed at the most concentrated population and only carpools for college students on campus. Car owners and users must register with real names in the background. Complete personal information helps carpool users to be safe. Query the carpool route of surrounding users and choose peers. You can also strengthen the alumni on the same road through chat and dialogue, and transform the network relationship into the real offline relationship in real time; users can choose the gender of car owners and carpool users according to their own conditions, so it protects contemporary women more. College students can safely travel by carpooling, and the system will automatically recommend the most suitable carpooling partners. They can also help each other when they are peers. It is a true and reliable platform.

## 6. Concluding Remarks

Carpooling on campus can meet the travel needs of teachers and students in colleges and universities, solve the pain points of difficult travel, and relieve the pressure of car maintenance and traffic congestion. At the same time, it provides a communication platform between teachers, students and colleagues. In the future development, with the help of the power of "Internet+", the concept of shared travel will be deeply rooted in the hearts of the people. Improve the carpooling platform system to meet the needs of carpooling users in the best way, build a comprehensive campus "Internet +" carpooling platform, provide the most convenient platform for college students on campus and enrich the life of college students.

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