

# Application of Apriori Algorithm in the Development of Hotel Management Information

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**Abstract:** The Apriori algorithm can effectively improve the efficiency and quality of the same time help accelerate the construction of smart hotels. Starting from understanding the application advantages of Apriori technology in the teaching of hotel management in higher vocational colleges, combining teaching cases to explore its specific application methods, and committed to giving It is hoped that the reports and related data generated by the evaluation system can be freely used by users, and users can operate and calculate the obtained data by themselves. higher vocational colleges. The thesis mainly discusses the information development and construction of the hotel management major courses in universities, taking the information development and construction of the marketing courses in this major as an example to carry out innovative applications of teaching reforms.

**Keywords:** Apriori Algorithm, Hotel Management, Management Information, Data Mining

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## 1. INTRODUCTION

The courses, teaching methods and teaching environment of colleges and universities are constantly striding forward to informatization, and the teaching mode of hotel management specialty is also constantly innovating and changing. At present, with the continuous emergence of cloud mobile learning platforms, smart classrooms, and various information technology methods, and the increasing development of mobile and communication technologies, the trend from digital learning to mobile learning is becoming more and more obvious. Mobile phones are becoming more popular and more powerful, providing good hardware support for mobile learning that breaks the limitations of time and space, and truly realizes "anytime, anywhere, anywhere" learning. Based on this, it is quite necessary to conduct in-depth discussions on the subject of the development and construction of hotel management professional courses informatization. With the pace of the Internet + era, various mobile learning platforms have emerged, and more and more educational resources have shared platforms [1-6].

In the mobile learning environment, it is both a challenge and an opportunity for the development of professional hotel management teaching in secondary vocational schools. The author will explore the teaching reform by analyzing the teaching status of the hotel management major in secondary vocational schools, combined with mobile learning. Mobile learning is a brand-new learning method that can break the limitations of time and space with the help of mobile devices and use fragmented time to learn anytime, anywhere. The mobile learning platform can effectively present educational resources and related information and provide two-way communication between teachers and students to meet the diverse learning needs of students. The system can output files in .xls format, which is convenient for users to call. In the application scenario of trams, due to the different applicability of a single sensor to different environments, weather, lighting, etc. of teaching equipment and teaching resources, and at the same time help to bring students a more realistic experience of teaching activities. At present, more and more vocational colleges are integrating there will be missed detections in

some scenarios. of specific application, it is necessary to improve the information literacy and application proficiency of relevant teachers. The learning algorithm of the RBF neural network has a great relationship with the role of its action function. The learning algorithm is different with the center of the action function an important role in optimizing the mode of educational activities. Therefore, hotel management teachers in higher vocational colleges need to improve the level of informatization teaching and actively innovate teaching models to create informatization teaching situations [7-14].

At the current stage, hotel education is in an era of information explosion. The application of information technology in hotel management is mainly to effectively solve business process problems and give birth to new business models. For example, before the advent of Didi taxi-hailing software, people generally believed that taxi-hailing must be done in the street in person. On this basis, as a college, when teaching hotel management, it must not rely solely on technology and operation process professors to complete the development and construction of informatization, but should focus on constructing students' personal thinking patterns and helping them to exercise their judgments. The ability to realize the sustainable development strategy pursued by the country. According to relevant survey and research data, the process of developing informatization teaching in domestic and foreign universities that set up hotel management majors usually includes four stages. Teachers and students majoring in hotel management follow the traditional classroom teaching mode, and all knowledge and skills are completed within 40 minutes of the classroom [15-21].

In the mobile learning environment, teachers and students majoring in hotel management (especially intern students) can obtain learning resources as long as they have smart devices within the range of the mobile network. Not only the learning method is mobile, but even the teachers, students and learning environment are also mobile. This breaks through the time and space limitations of traditional classrooms, and makes teaching and learning more convenient for teachers and students. At present, more and more vocational colleges are

beginning to use information technology to carry out teaching activities. The application of this teaching method can effectively improve the single mode of traditional teaching, and at the same time can make the presentation of classroom teaching content more intuitive and vivid [22-24].

## 2. THE PROPOSED METHODOLOGY

### 2.1 The Apriori Algorithm

The ultimate goal of association rule mining is to find all the strong association rules in the target transaction database, that is, the support of the association rules that need to be mined must be not less than the minimum support, and the confidence must be greater than or equal to the minimum confidence. The whole process is divided into the following two steps: Find out frequent itemsets: In the target transaction database, calculate the number of occurrences and support of the itemsets. If the support of the itemsets is not less than the minimum support, then the itemsets are a frequent item set. Calculating strong association rules: Through the frequent item set obtained in the first step, all the strong association rules can be calculated easily using formulas.

The center selection of the action function generally includes: random selection of the center method, self-organization learning algorithm, some Supervised selection center method and orthogonal least squares method, etc. Except for self-organizing learning algorithms. The whitening weight function of gray class refers to the degree to which an object belongs to a certain gray class by quantitative description. It can generally be determined in the context of the actual problem. When solving practical problems, the whitening weight function can be determined from the perspective of the objects participating in the clustering, or the whitening weight function can be determined according to all similar objects from the perspective of the whole environment. Specifically, the role of the preprocessing and postprocessing modules is to perform low-pass filtering on the frame-level quality score sequence.

### 2.2 The Hotel Management Major

In order to achieve a close connection between professional courses, teachers need to ask students the question of "specific research on a certain hotel" before the launch of the course teaching activities, and let the students learn the contents of the four major business modules of the research object, and then do Produce a hotel management plan with application value. Taking the marketing course as an example, in the teaching process, teachers need to analyze the market environment, consumer intentions, market trends and other content according to the marketing workflow, starting from the four modules, and designing tasks for students respectively.

This position requires sales staff to have the ability to communicate well with users, write hotel promotion plans, and conduct advertising. Teachers must effectively master the personal learning of each student when assigning tasks. The situation and the characteristics of thinking logic are arranged for targeted learning tasks. Hotel management students go to hotel related departments for course internships and graduation internships. Some students often experience various situations due to the short-term inability to adapt to the change of status, or become discouraged by internships due to abilities and concepts. Internship management is a complicated job, and students leave school and go out for internships in hotels, which makes it more difficult for

students to educate them. The reasonable application of the mobile learning platform can effectively break the limitations of time and space and extend the breadth of teaching. Teachers can provide targeted learning resources through the mobile learning platform, and students can use fragmented time to continue learning, providing students with a sustainable management environment for internships. The application of information technology helps students better understand the inherent interest of hotel management knowledge, and thus helps to fully enhance students' enthusiasm for inquiry in classroom learning. At present, more and more teachers in higher vocational colleges make full use of modern technology to mobilize students' enthusiasm for participation when carrying out hotel management teaching activities. They use information technology to achieve the unity of voice, shape, picture and color, so as to show students colorful and colorful Interesting teaching content.

### 2.3 The Application of Apriori Algorithm in Hotel Management Major

The marketing teaching preparation in the hotel management professional course is mainly divided into two steps: problem introduction and independent inquiry. The first step mainly refers to that teachers use information-based teaching tools to play relevant hotel management materials and ask questions based on the content of the materials. After viewing the content of the materials, students think about solving the problems raised by the teacher. The significance of this step is that teachers can guide the teaching of new courses through effective creation of questions, use the sense of "suspense" to stimulate students' interest in thinking, and enable them to efficiently absorb new knowledge within a short period of time when students are focused.

Step two can be presented from two perspectives. One is to allow students to think about the promotion types, plans, content and steps of hotel operations based on the information displayed on the large multimedia screens of informatization tools, and based on the results of the thoughts and discussions. A summary by the teacher, and individual guidance for some students who have conflicts in understanding. Database division is to divide all the transactions in the target transaction database into several parts based on the attribute value of each column, and then mine the frequent item sets for each divided part, and finally calculate the frequency of candidate item sets according to the transaction database to determine the final frequent itemset. The main principles of the algorithm are: First, the frequent itemsets on the entire target transaction database must also be frequent itemsets on the divided part of the transaction database; second, the frequent itemsets on each divided part of the transaction database are merged the set may also be a frequent item set on the entire target transaction database. This algorithm can well solve the redundancy of large-scale data sets, and also improves the efficiency of the original Apriori algorithm. The strong association rules that are mined are incorrect. The strong association rules discovered by the algorithm may not match the actual situation, so they do not have practical significance. At the same time, they also have a certain misleading effect. It is particularly important for the mining of medical big data. Not only can it not play the role of auxiliary medical care, but it may also cause wrong judgments. There have been many schemes for the improvement of Apriori algorithm. In addition to the above methods, there are also improvement methods based on hash tables, Boolean matrices, arrays, etc.

### 3. CONCLUSIONS

Apriori algorithm can effectively improve the efficiency and quality of the same time help accelerate the construction of smart hotels. Starting from understanding the application advantages of Apriori technology in the teaching of hotel management in higher vocational colleges, combining teaching cases to explore its specific application methods, and committed to giving It is hoped that the reports and related data generated by the evaluation system can be freely used by users, and users can operate and calculate the obtained data by themselves. higher vocational colleges. The thesis mainly discusses the information development and construction of the hotel management major courses in universities, taking the information development and construction of the marketing courses in this major as an example to carry out innovative applications of teaching reforms.

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