Development of a Mobile Phone Repair Management Program

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***Abstract*—This thesis details the development of a program for managing the repair of faulty mobile phones, focusing on practical implementation and problem-solving techniques. The program includes functions for data processing, decision-making, and handling real-world issues encountered in the field of mobile phone repair. The study covers the current state of mobile phone repair processes, the introduction of a new 119 service system, and the implementation of expert system support. The program successfully processes incoming data, extracts relevant information, and categorizes faults based on predefined criteria. It then determines the most likely fault type and updates the database accordingly. The discussion evaluates the program's performance in handling real-time data and decision-making processes, highlighting the effectiveness of the program in managing mobile phone repairs and the importance of expert system support in decision-making. The conclusion attributes the program's success to its robust decision-making processes and the integration of expert system support.**

***Index Terms*—mobile phone repair, program development, data processing, decision making, expert system, inference methods**

I. Introduction

The thesis introduces the development of a program for managing the repair of faulty mobile phones, detailing the current state of the repair process and the new system's features. The study focuses on the operation of the 119 emergency service, the introduction of the new 119 service system, and the implementation of the 119 service from a practical perspective. The current repair process involves manual data entry and decision-making, which can be inefficient and error-prone. The new system aims to automate these processes, providing a more efficient and accurate solution. The program includes functions for data processing, decision-making, and handling real-world issues encountered in the field of mobile phone repair. [1]

II. Methods

The methods section describes the development of the program, including the introduction of new system features, data processing techniques, and decision-making processes. The program utilizes fuzzy logic and expert systems to handle real-time data and make decisions. Fuzzy logic is used to process incoming data, extract relevant information, and categorize faults based on predefined criteria. The program then determines the most likely fault type and updates the database accordingly. Expert system support is integrated to provide additional decision-making capabilities, ensuring that the program can handle complex and uncertain situations. The implementation involves the use of VisualBasic 6.0 for programming and SQL Server for database management. [1]

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III. Results

The program successfully processes incoming data, extracts relevant information, and categorizes faults based on predefined criteria. It then determines the most likely fault type and updates the database accordingly. The program's functions include data processing, decision-making, and handling real-world issues encountered in the field of mobile phone repair. The implementation of the program has improved the efficiency and accuracy of the repair process. However, the program has not been extensively tested in a real-world environment, and its performance in handling complex and uncertain situations remains to be evaluated. [1]

IV. Discussion

The discussion section evaluates the program's performance in handling real-time data and decision-making processes. The program's use of fuzzy logic and expert system support has proven effective in managing mobile phone repairs. The program's ability to process incoming data, extract relevant information, and categorize faults based on predefined criteria demonstrates its robustness. However, the program has not been extensively tested in a real-world environment, and its performance in handling complex and uncertain situations remains to be evaluated. The integration of expert system support has provided additional decision-making capabilities, ensuring that the program can handle complex and uncertain situations. The program's success is attributed to its robust decision-making processes and the integration of expert system support. [1]

V. Conclusion

The thesis concludes that the developed program effectively manages mobile phone repairs, providing a practical solution for real-world issues. The program's success is attributed to its robust decision-making processes and the integration of expert system support. However, the program has not been extensively tested in a real-world environment, and its performance in handling complex and uncertain situations remains to be evaluated. The program's implementation has

improved the efficiency and accuracy of the repair process, but further testing and evaluation are needed to fully assess its effectiveness. [1]

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