

## QR Technology to Automate Health Condition Detection in Payment System: A Case Study in the Kingdom of Saudi Arabia's Schools

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**Abstract :** Food allergy is a common and rising problem among children. Many students have their first allergic reaction at school, one of these is anaphylaxis, which can be fatal. This study discovered that several schools' processes lacked safety regulations and information on how to handle allergy issues and chronic diseases like diabetes where students were not supervised or monitored during the cafeteria purchasing process. There is no obvious prevention or effort in academic institutions when purchasing food containing allergens or negatively impacting the health status of students who suffer from chronic diseases. Students must always be stable to reflect positively on their educational development process. To address this issue, this paper uses a business reengineering process to propose the automation of the whole food-purchasing process, which will aid in detecting and avoiding allergic occurrences and preventing any side effects from eating foods that are conflicting with students' health. This may be achieved by designing a smart card with an embedded QR code that reveals which foods cause an allergic reaction in a student. A survey was distributed to determine and examine how the cafeteria will handle allergic children and whether any management or policy is applied in the school. Also, the survey findings indicate that the integration of QR technology into the food purchasing process would improve health condition detection. The suggested system would be beneficial to all parties, the family agreed, as they would ensure that their children didn't eat foods that were bad for their health. Moreover, by analyzing and simulating the as-is process and the suggested process the results demonstrate that there is an improvement in quality and time.

**Keywords :** QR code, smart card, food allergies, business process reengineering, health condition detection

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