A Fingerprint-Based Automatic Attendance Prototype

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***Abstract*—This undergraduate thesis investigates a fingerprint-based attendance recording system. An attendance device can record an authorized person's presence through a biometric credential. The student designs and assembles a fingerprint attendance model and documents its components, control program, and operating flow. The report discusses enrollment and recognition as part of the attendance process. The conclusion states that the design objective was met in the student prototype. It discusses possible efficiency and fairness benefits, but does not quantify those benefits or show a deployment in a large workplace. Biometric attendance raises privacy, consent, and false-recognition issues. The thesis does not provide an independent error benchmark or security assessment of stored fingerprint templates. The contribution is a documented student study or prototype whose stated scope can guide further testing.**

***Index Terms*—fingerprint, attendance, embedded system, biometrics**

I. Introduction

An attendance device can record an authorized person's presence through a biometric credential. This thesis investigates a fingerprint-based attendance recording system. It begins from a practical engineering need and explains the technologies and workflow chosen for the case. The objective is to document a student implementation or comparative investigation, together with the evidence available in the manuscript. Broader operational or economic effects require separate measurements and are not assumed from the existence of a prototype [1]. Earlier ICTU student work on related designs is included here for context [2], [3]. Related published studies provide context for the subject and methods [4], [5], [6], [7], [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student designs and assembles a fingerprint attendance model and documents its components, control program, and operating flow. The report discusses enrollment and recognition as part of the attendance process. The source is summarized through its stated design, implementation material, examples, and conclusion. Features shown in the manuscript are distinguished from proposals for later development. This review does not add a new experiment, fill missing measurements with estimates, or treat a planned capability as an observed result. The source thesis remains the provenance for the reported work [1].

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III. Results

The conclusion states that the design objective was met in the student prototype. It discusses possible efficiency and fairness benefits, but does not quantify those benefits or show a deployment in a large workplace. The report's screens, configurations, examples, or measurements constitute the evidence for this summary. A capability described only as a design intention is not counted as a validated operational outcome. No additional performance, adoption, financial, or safety figure has been introduced here. The result is interpreted within the scope of the student's documented setup [1].

IV. Discussion

Biometric attendance raises privacy, consent, and false-recognition issues. The thesis does not provide an independent error benchmark or security assessment of stored fingerprint templates. Further work could test recognition under varied conditions, document data-retention safeguards, and evaluate use with a representative organization. These limitations affect how the evidence should be read. The current manuscript can support understanding of the design and reported demonstration, while independent tests would be needed for stronger claims. Any later deployment should document its environment and separate observed outcomes from intended benefits [1].

V. Conclusion

The thesis documents a fingerprint-based attendance recording system. The conclusion states that the design objective was met in the student prototype. It discusses possible efficiency and fairness benefits, but does not quantify those benefits or show a deployment in a large workplace. Biometric attendance raises privacy, consent, and false-recognition issues. The thesis does not provide an independent error benchmark or security assessment of stored fingerprint templates. Further work could test recognition under varied conditions, document data-retention safeguards, and evaluate use with a representative organization. Accordingly, the present contribution is a source-grounded account of the student work and its tested or

illustrated scope. Claims about broader effectiveness should be assessed in later work using explicit evaluation conditions [1].

References

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