An Android Application for Managing Personal Travel Itineraries

Nguyễn Văn Công
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student650@ictu.edu.vn

***Abstract*—This undergraduate thesis develops a mobile application for managing personal travel itineraries. The manuscript defines account registration and login, itinerary creation and maintenance, search, favorites, and summaries of travel-related data. It presents use-case specifications, sequence and activity diagrams, a data model, and Android interface screenshots. The implementation uses Java and Firebase. The reported prototype lets a user select a location on a map, manage saved itineraries, and inspect day-, month-, or year-based statistics for distance, travel time, fuel, and calorie estimates. These outcomes are supported by the author's implementation description and screenshots. The manuscript does not document a controlled usability study, performance benchmark, or independent validation of the estimates. The author describes limited functionality and an interface and loading speed that require improvement. The result is therefore a documented application prototype rather than evidence of a production-ready navigation service.**

***Index Terms*—Android, travel itinerary, personal schedule, Firebase, mobile application**

I. Introduction

Personal travel plans can become difficult to organize when destinations and trip details are stored separately. This thesis addresses that problem through an Android application that lets an individual keep itineraries, retrieve them, and review travel information. The report surveys Android, the development environment, Java, Firebase, and location-related concepts before specifying the application. Its stated scope is management of personal movement schedules, including favorite itineraries and aggregate statistics. This English summary follows the documented design and implementation, distinguishing displayed application functions from benefits or accuracy that were not measured in the source manuscript [1]. Earlier ICTU student work on related designs is included here for context [2], [3], [4], [5], [6], [7], [8]. Published technical books provide background for the methods discussed in this summary [9], [10], [11]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The student models registration, login, itinerary creation, editing, deletion, searching, favorites, and statistics with use cases and interaction diagrams. The proposed data model includes account, schedule, saved schedule, and schedule-detail entities, with fields for location coordinates and travel attributes. The application is implemented for Android in Java with Firebase services. The report presents a map-based home screen and separate screens for itinerary management, search, favorites, and statistics. This summary reviews the source cover, requirements, entity tables, interface descriptions, screenshots, bibliography, and conclusion. It treats screenshots and author statements as evidence of the prototype, not as independent software tests [1].

Supervisor: Đoàn Ngọc Phương, Thai Nguyen University of Information and Communication Technology (dnphuong@ictu.edu.vn).

III. Results

The manuscript shows registration and login screens, a map-based home page, an itinerary list, search results, favorites, and a statistics view. Users are described as selecting a map location to create an itinerary, opening an itinerary for details, holding an item to edit or remove it, and assigning a memorable name to a favorite. The statistics screen is described as grouping distance, time, fuel, and calorie information by day, month, or year. The author concludes that a basic Java and Firebase application was built. No dataset, test protocol, measured loading time, or comparison with another itinerary application is reported [1].

IV. Discussion

The source provides useful traceability between the planned user actions, model tables, and displayed screens. It leaves the calculation method and validation of travel-derived statistics unclear, so the values should not be interpreted as verified physical measurements. The described map interaction does not establish route guidance or accurate traffic prediction. The conclusion acknowledges that the application remains limited to basic functions and that some functions and the interface require refinement. An appropriate follow-up would document functional test cases, check data consistency across accounts and favorites, validate derived values, and measure loading behavior under stated conditions [1].

V. Conclusion

Nguyễn Văn Công's thesis documents a personal itinerary management prototype for Android, implemented with Java and Firebase. The reported application covers account access, itinerary operations, search, favorites, map selection, and period-based travel statistics. Its diagrams and screenshots

support a working student demonstration of the stated basic functions. The manuscript does not establish reliable performance, statistical accuracy, or deployment at scale. The author identifies the need for broader functionality, a friendlier interface, and faster data loading. Further testing should address these limitations before operational claims are made [1].

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