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Local Equity: A Digital Platform Connecting Local Business Owners with Investors – A Review

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Abstract—

Small and local businesses contribute significantly to economic development and employment, yet many of them struggle to raise the capital needed for expansion, marketing, equipment and technology adoption. Traditional sources of finance such as bank loans, personal savings and family funding are often difficult to access, while individuals who wish to invest locally have no simple and transparent way of discovering suitable businesses. This review surveys the existing literature on digital funding platforms, with emphasis on crowdfunding and equity-based investment, and identifies a gap in platforms that specifically target local businesses and equity-sharing opportunities. To address this gap, the paper presents Local Equity, a proposed digital platform that connects local business owners with potential investors. A business owner can register, create a business profile and list an investment opportunity by offering a stated percentage of ownership in exchange for funding, while investors can browse listings, review business details and the equity offered, and express their interest in investing. The proposed methodology covers requirement analysis, system design, authentication, opportunity management, investor exploration, interest management, data analysis and testing. The platform is planned as a cross-platform mobile application built with Flutter and Dart, a Python and FastAPI backend, a MySQL database accessed through SQLAlchemy, JSON Web Token (JWT) based authentication with password hashing, and a data analysis layer using Pandas, NumPy and Power BI. The expected outcome is a simple, secure and user-friendly system that improves accessibility, transparency and communication between local entrepreneurs and investors.

Keywords— Local Business Investment; Equity Sharing; Investor–Business Connection; Digital Investment Platform; Business Funding; Financial Technology.



I. INTRODUCTION

Small and local businesses play an important role in economic development and employment generation. However, many of them face difficulties in raising funds for expansion and development. Traditional investment routes may be hard to reach for small business owners because they often depend on personal connections, large financial institutions or complex procedures. Research on how funding flows to ventures has shown that geography and local proximity strongly influence who gets funded [1], [5], and that online platforms can widen access to capital for entrepreneurs [2], [3].

Local Equity is proposed as a digital platform that creates a direct connection between business owners and potential investors. Through the platform, a business owner presents information about the business and specifies the percentage of equity he or she is willing to offer in exchange for investment. For example, a local business owner who wants ₹10 lakh for business expansion may offer 10% ownership of the business to an interested investor. Investors can browse the available opportunities and decide whether to show interest based on the information provided. The system therefore acts as a digital bridge between local entrepreneurs and investors.

The project combines Flutter for mobile application development, Python and FastAPI for backend services, and MySQL for database management, together with authentication and password protection to ensure secure access. This paper reviews the background and related work, identifies the problem and research gap, and presents the scheme, methodology, technology stack and expected outcomes of the proposed Local Equity platform.

A. Aim

The aim of the Local Equity project is to develop a digital platform that connects local business owners with potential investors. The system enables business owners to showcase their businesses, specify their funding requirements and offer a percentage of equity to interested investors, while investors explore the available opportunities and express their interest in investing. The platform aims to simplify the initial process of business funding, improve accessibility and transparency, and create a structured connection between local entrepreneurs and investors.

B. Objectives

The objectives of the research work are outlined as follows:

- To create a digital platform connecting local business owners and investors.
- To allow business owners to register and create business profiles.
- To enable owners to list their investment requirements and the equity offered.
- To allow investors to explore different local business opportunities.
- To provide detailed information about businesses and investment opportunities.
- To enable investors to express interest or submit investment requests.
- To maintain records of business listings and investor interactions.
- To provide separate dashboards for business owners and investors.
- To improve transparency and accessibility in discovering local investment opportunities.
- To apply data analysis techniques for organising and presenting business and investment information.

II. LITERATURE REVIEW

A. Background Study

In recent years, digital platforms have significantly changed the way businesses connect with customers, financial institutions and investors. Small and local businesses are an important part of the economy, but many face difficulties in obtaining sufficient funds for expansion, purchasing equipment, marketing, hiring employees and adopting new technologies.



Traditional sources of finance such as bank loans, personal savings, family funding and private investors may not be easily accessible to every business owner.

At the same time, individuals who are interested in investing often find it difficult to locate suitable local businesses and to obtain organised information about their investment opportunities. The absence of a centralised platform makes discovering and connecting with potential businesses harder. Crowdfunding has been studied as one way of reducing this gap by allowing entrepreneurs to raise funds from many contributors [2], and its potential for developing economies has been discussed in the literature [3]. In India, the regulator has also examined the question of crowdfunding through a consultation paper [4].

B. Existing Investment Platforms

Existing investment platforms mainly focus on stock markets, startups, large companies, crowdfunding or established investment networks. Stock market platforms allow users to buy and sell publicly listed company shares. Startup investment platforms focus mainly on high-growth startups and venture capital opportunities. Crowdfunding platforms allow businesses or individuals to raise funds from multiple contributors. Work on online syndicates in startup investment [6] and on the local nature of equity crowdfunding [5], [7], [8] shows that proximity and investor behaviour matter in equity-based funding. However, these systems do not specifically focus on connecting local small businesses with investors interested in purchasing equity or ownership stakes.

Many small businesses therefore still depend on banks, personal loans, family funding or private networks to raise capital. There is a need for a simplified digital system where local business owners can present investment opportunities and potential investors can easily discover them. The comparative summary of noteworthy studies considered for this work is given in Table I.

Table I: Comparative summary of literature on digital business-investment platforms

Title of Paper (Source, Year)	Technology Used	Advantages	Limitations / Future Scope	Research Gap
Digital Equity Investment Platform for Small Businesses (IEEE Conference, 2024)	Web technology, database management	Connects small businesses with potential investors	Requires accurate business information; secure online investment management	Limited focus on local businesses
Online Platform for Small Business Financing (ACM Digital Library, 2024)	Web application, MySQL, data management	Provides easy access to business funding opportunities	Security and verification challenges; integration with financial institutions	Limited equity-based investment support
Equity Crowdfunding Platform for Entrepreneurs (Springer, 2025)	Web technology, database, financial management	Helps entrepreneurs raise funds from multiple investors	Regulatory and legal challenges; digital contracts and secure transactions	Mainly focuses on crowdfunding rather than local equity
Digital Marketplace for Business Investment Opportunities (Procedia Computer Science, 2025)	Web development, cloud database, search and filtering	Provides a centralised platform for investment opportunities	Internet dependency and privacy concerns; mobile application and advanced analytics	Limited location-based business investment discovery
Online Business–Investor Matching Platform (IEEE International Conference, 2026)	Database management, search and filtering, web technologies	Helps investors find businesses according to their requirements	Matching depends on available business information; improved investor–business matching and verification	Lack of a simple platform specifically for local equity exchange

C. Problem Identification and Research Gap

Local and small-scale businesses often face difficulties in obtaining sufficient funds for expansion, equipment, marketing, infrastructure or technology adoption. Many owners depend on personal savings, bank loans, family members or limited personal networks, and these routes may involve complex procedures, eligibility requirements or limited access to suitable investors. On the other side, individuals interested in investing in local businesses do not have a centralised platform where they can discover and compare opportunities; information about local businesses, their funding requirements and equity offerings is scattered or available only through personal contacts.

Another major problem is the lack of a structured digital system for managing the initial interaction between business owners and potential investors.



Without such a platform, it is difficult to organise business listings, investment requirements, equity details and investor interests in one place. The review therefore indicates a need for a simple, organised and user-friendly platform focused on local businesses and equity-based opportunities, which is the gap addressed by Local Equity.

III. METHODOLOGY

A. Basic Scheme and Block Diagram

The proposed system provides separate functionality for business owners and investors and maintains all relevant information in a centralised database. The user interacts with a mobile application, which communicates with the FastAPI backend for authentication, business management, equity management and data processing. The backend stores and retrieves data from the MySQL database, processes data to generate insights, and returns results and dashboards to the user, while a security layer based on JWT authentication, password hashing, secure API access and data validation protects the whole flow. The working of the system is shown in Fig. 1.

[Insert Fig. 1 image here]
Fig. 1: Working of Local Equity

B. Flowchart

The flowchart of the application, from launching the app through registration or login, dashboard access, business and equity management, data processing and logout, is shown in Fig. 2.

[Insert Fig. 2 image here]
Fig. 2: Flowchart of Local Equity

C. Algorithm

Step 1. **Start the Application:** The user opens the Local Equity mobile application.

Step 2. **User Registration/Login:** The user creates a new account or logs in using valid credentials.

Step 3. **User Authentication:** The system verifies the user details and provides secure access to the application.

Step 4. **Access Dashboard:** After successful login, the user enters the main dashboard of the application.

Step 5. **Manage Business Information:** The user can add, view, update or manage local business-related information.

Step 6. **Manage Equity Information:** The user can access and manage equity-related details available in the system.

Step 7. **Data Processing:** The backend processes the user requests and stores or retrieves the required data from the MySQL database.

Step 8. **Data Analysis and Visualization:** The system processes available data and displays useful information through dashboards and visual representations.

Step 9. **Secure Data Management:** The system uses authentication and password security to protect user information.

Step 10. **Display Results:** The processed information and required results are displayed to the user.

Step 11. **Logout:** The user can securely log out after completing the required tasks.

Step 12. **End:** The application session is completed successfully.

D. Proposed Methodology

The proposed project follows a structured methodology for designing and developing the Local Equity platform:

- **Requirement Analysis:** The requirements of business owners and investors are studied to identify the main features of the system.
- **System Design:** The system architecture, database structure, user interfaces and workflows are designed.
- **User Authentication:** Separate registration and login systems are provided for business owners and investors.
- **Business Opportunity Management:** Business owners can create, update and manage their business investment listings.
- **Investor Exploration:** Investors can search and view available business opportunities using filters such as category, location, investment amount and equity percentage.
- **Investment Interest Management:** Investors can express interest in a business opportunity, and the business owner can review the request.



- **Data Management and Analysis:** Business and investment-related data is stored in a database, and basic analytical methods organise, compare and display business opportunities.
- **Testing:** The system is tested for usability, accuracy, authentication, database operations and overall functionality.

E. Tools and Technologies

- **Frontend:** Flutter and Dart are used to develop the mobile application. Flutter helps create a user-friendly interface, Dart is used for programming the application, and Material Design makes the application attractive and responsive.
- **Backend:** Python and FastAPI are used for backend development. FastAPI creates the APIs and connects the frontend with the database, Uvicorn runs the backend server, and Pydantic validates the data.
- **Database:** MySQL stores user and business-related data. SQLAlchemy connects Python with the database, while Alembic manages database changes.
- **Development and Testing:** VS Code is used for coding, Postman for testing APIs, and GitHub for storing and managing the project code.
- **Security and Data Analysis:** JWT and bcrypt provide secure user authentication and password protection. Pandas and NumPy are used for data processing, while Power BI is used to create dashboards and visualise data.

F. System Architecture

The components communicate in the following manner: Flutter UI → REST API → FastAPI Backend → SQLAlchemy → MySQL Database. Flutter handles the user interface, FastAPI handles the application logic and APIs, SQLAlchemy manages database interaction, and MySQL stores persistent data.

IV. RESULTS AND DISCUSSION

A. Expected Outcomes

The expected outcome of the proposed Local Equity project is a simple, secure and user-friendly mobile application that provides a platform for managing local business and equity-related information in an organised and efficient way. The interface developed using Flutter and Dart is expected to make the different features easy to use, while the backend developed using Python and FastAPI manages the application logic and the communication between the frontend and the database.

MySQL is used to store user and business information securely, and authentication features such as JWT and password hashing help protect user accounts and sensitive information. Tools such as Pandas and NumPy can process the data, while Power BI can present important information through dashboards and visualisations. Overall, the project combines mobile application development, backend services, database management, security and data analysis into one integrated system that improves transparency, provides secure access and supports a better understanding of local business-related data.

B. Application Interface and Project Progress

The opening screen of the application, where a user chooses to join as a startup owner or as an investor, is shown in Fig. 3, and the overall project progress is summarised in Fig. 4 and Table II.

[Insert Fig. 3 image here]
Fig. 3: Opening screen of Local Equity

[Insert Fig. 4 image here]
Fig. 4: Project progress overview of Local Equity

As of 25 August 2025, 15 of the 20 planned modules were completed, 3 were in progress and 2 were pending, which corresponds to 75% of the work completed, 15% in progress and 10% pending. The module-wise status is given in Table II.

Table II: Module-wise development progress of Local Equity

Module	Status	Progress	Remarks
User Authentication	Completed	100%	Login, signup and JWT implemented
Business Management	Completed	100%	Add, update and delete operations done
Equity Management	In Progress	70%	Equity calculation in progress
Dashboard & Analytics	In Progress	60%	Charts and reports under development
Notifications	Pending	0%	Will be started soon
Reports & Export	Pending	0%	Pending



C. Discussion

The comparative study in Table I shows that existing digital platforms either have a limited focus on local businesses, offer limited equity-based investment support, concentrate on crowdfunding rather than local equity, provide limited location-based discovery, or lack a simple platform for local equity exchange. Local Equity addresses these gaps by letting business owners list a funding requirement together with the equity offered, by letting investors search opportunities using filters such as category, location, investment amount and equity percentage, and by recording investor interest for the owner to review. The limitations noted in the literature, namely the need for accurate business information, security and verification, and regulatory and legal considerations, are also relevant to the proposed platform, and are addressed in the design through authentication, password hashing, secure API access and data validation.

V. CONCLUSION

This review paper examined the difficulty that local businesses face in raising capital and the lack of a simple platform through which local investors can discover them. The literature on crowdfunding and equity-based investment shows the importance of online platforms and of local proximity in funding decisions, but existing systems mainly target startups, large companies, crowdfunding campaigns or listed securities. The proposed Local Equity platform addresses this gap by allowing business owners to list their funding requirement and the equity offered, and by allowing investors to explore these opportunities and express interest. Using Flutter, FastAPI and MySQL with secure authentication and a data analysis layer, the system is expected to improve accessibility, transparency, organisation and communication between local entrepreneurs and investors, and to support the growth of local businesses.

Future work includes completing the equity management module, developing the dashboard and analytics section, implementing notifications, adding reports and export functionality, and carrying out testing, bug fixing and final deployment.

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