

# **Let's Grow: Business Platform**

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Engineering Honors in Computer Science.

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Declaration of the Candidate & Supervisor

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The above candidates have carried out work for Bachelor of Software Engineering Honors Degree report under my supervision.

Name of the supervisor: .....

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# 1. INTRODUCTION

## 1.1. Purpose

The *Let's Grow* project aims to create an innovative online platform that connects startups with potential investors, facilitating business growth and collaboration. This platform is designed to eliminate the barriers that entrepreneurs face in securing funding while providing investors with direct access to promising business opportunities.

Key objectives of *Let's Grow*:

- **Streamline the investment process** by offering a transparent and user-friendly platform.
- **Enable startups to showcase their business proposals** and attract suitable investors.
- **Facilitate direct communication** between entrepreneurs and investors without intermediaries.
- **Enhance visibility for startups** by providing a centralized hub for investment opportunities.
- **Support the startup ecosystem** by fostering collaboration, knowledge-sharing, and funding accessibility.

By bridging the gap between startups and investors, *Let's Grow* contributes to a more dynamic and efficient business funding environment, ultimately fostering innovation and economic growth.

## 1.2. Product Scope

The *Let's Grow* platform is an online system designed to facilitate seamless interaction between startups and investors. The product scope defines the key features, functionalities, and limitations of the system, ensuring clarity in development and implementation.

### 1. Core Functionality

- **Startup Proposal Submission:** Startups can create and submit detailed business proposals, including investment requirements and growth plans.
- **Investor Browsing & Filtering:** Investors can browse startups based on industry, funding stage, and potential ROI.
- **Direct Communication:** Investors can directly contact startups to discuss funding opportunities.
- **User Registration & Profiles:** Separate registration processes for startups and investors, allowing them to create, update, and manage their profiles.
- **Dashboard System:** Startups and investors will have dedicated dashboards for managing their activities on the platform.
- **Security Features:** Secure authentication, data encryption, and role-based access control to protect sensitive information.

### 2. Performance & Scalability

- The system will support up to **1000 concurrent users**, ensuring high availability and minimal downtime.
- Designed to be **compatible with all major web browsers** and scalable for future enhancements.

### 3. Limitations (Out of Scope)

- No **mobile application** in the initial version (web-based only).
- No **integrated chat system**: communication will be via contact details shared within the platform.

By maintaining a clear product scope, *Let's Grow* aims to create a transparent and efficient investment ecosystem for startups and investors.



## 2. Overall Description

The *Let's Grow* platform is an innovative online system designed to bridge the gap between startups and investors. The platform enables entrepreneurs to present their business proposals while providing investors with a streamlined process to discover and connect with potential investment opportunities. By eliminating intermediaries, *Let's Grow* creates a transparent, efficient, and user-friendly environment that simplifies the funding process.

### 2.1. Product Perspective

The *Let's Grow* platform is a **web-based application** designed to facilitate direct connections between startups and investors. It acts as a **centralized investment hub**, eliminating traditional barriers to funding by offering a structured, transparent, and efficient matchmaking process.

#### Relationship to Existing Systems

- Unlike **crowdfunding platforms** (e.g., Kickstarter), *Let's Grow* does not rely on pooled investments but focuses on direct **startup-investor interactions**.
- Unlike **professional networking sites** (e.g., LinkedIn, AngelList), it provides **tailored filtering** to help investors find the most relevant startups.
- The platform ensures **secure proposal submissions**, allowing startups to showcase their businesses without exposure to unauthorized users.

#### Key Advantages Over Existing Solutions

- **Simplified Investment Process:** No complex approval mechanisms or intermediaries.
- **Transparent Communication:** Direct messaging between investors and startups.

- **Custom Filtering:** Investors can **search for startups** based on sector, funding stage, and potential ROI.
- **Scalability & Security:** Built for **future growth**, ensuring user data protection with **secure authentication** and encryption.

This platform is an essential **tool for startups** seeking investors and **investors looking for promising ventures**, ultimately fostering an **efficient, collaborative, and growth-driven startup ecosystem**.

## 2.2. Product Functions

The *Let's Grow* platform provides a structured and efficient way for startups and investors to connect. The system includes the following core functionalities:

### 1. User Management

- Startup Registration & Profile Management: Startups can create, update, and delete their profiles.
- Investor Registration & Profile Management: Investors can create, modify, and delete their profiles.
- User Authentication & Security: Secure login, password recovery, and role-based access control.

### 2. Startup Proposal Management

- Create & Submit Business Proposals: Startups can add detailed investment proposals.
- Edit & Delete Proposals: Startups can update or remove proposals as needed.
- Proposal Visibility: Investors can access and review startup proposals.

### 3. Investor Discovery & Filtering

- Search & Filter Startups: Investors can filter businesses by industry, funding stage, and expected ROI.
- Bookmark & Save Proposals: Investors can save startups of interest for future reference.

#### 4. Communication & Engagement

- Direct Contact Feature: Investors can reach out to startups via provided contact options.
- Dashboard System: Personalized dashboards for startups and investors to track interactions.

#### 5. System Performance & Security

- Scalability & High Availability: Supports up to 1000 active users.
- Data Protection & Encryption: Ensures secure transactions and user privacy.

These functions aim to create a transparent, user-friendly, and scalable platform for startup funding and investment.

### 2.3. User requirements

The *Let's Grow* platform is designed to meet the needs of both startups and investors by providing an intuitive, secure, and efficient way to connect and collaborate. Below are the key user requirements categorized by user type.

#### 1. General Requirements

- Users must be able to **register, log in, and manage their profiles** securely.
- The system should provide **role-based access** (Startups and Investors).
- The platform should have an **easy-to-navigate user interface** with clear workflows.

#### 2. Startup Requirements

- Startups should be able to **create, update, and delete their business proposals**.
- Startups must have a **dashboard** to track investor interactions and proposal engagement.
- The system should allow **proposal filtering options** so startups can target suitable investors.

### 3. Investor Requirements

- Investors should be able to **search, filter, and browse startup proposals** by sector, funding stage, and growth potential.
- Investors must have access to a **dashboard** to track their saved or contacted startups.
- Investors should be able to **contact startups directly** through the platform.

### 4. Security & Performance Requirements

- The system should ensure **data encryption and secure authentication**.
- The platform must support **scalability for up to 1000 users** without performance issues.
- The system should have **99.9% uptime reliability** to ensure uninterrupted service.

These requirements aim to create a **user-friendly, secure, and efficient** platform that streamlines the startup-investor connection process.

## 2.4. User Classes and Characteristics

The *Let's Grow* platform serves multiple user groups, each with distinct characteristics, roles, and interactions with the system. Below are the primary user classes and their attributes:

### 1. Startups (Entrepreneurs & Business Owners)

**Characteristics:**

- Individuals or teams looking for investment to scale their business.
- Require a structured platform to showcase their business ideas.
- Need an intuitive dashboard to manage proposals and investor interactions.
- Prefer seamless **profile management, proposal submission, and visibility controls**.

#### **Key Interactions:**

- Register and create startup profiles.
- Submit and manage business proposals.
- Search and filter investors.
- Receive and respond to investor inquiries.

## **2. Investors (Angel Investors, Venture Capitalists, Firms)**

#### **Characteristics:**

- Individuals or organizations seeking **promising startups** to invest in.
- Require **advanced filtering** to find startups that match their interests.
- Need **secure access** to review business proposals and financial details.
- Prefer direct **communication tools** for startup interactions.

#### **Key Interactions:**

- Register and create investor profiles.
- Search, filter, and browse startup proposals.
- Bookmark or shortlist potential startups.
- Contact startups directly for investment discussions.

## **3. Platform Administrators**

#### **Characteristics:**

- Oversee system functionality and maintain platform security.

- Manage **user registrations, content moderation, and data security**.
- Ensure platform compliance with **legal and security standards**.

**Key Interactions:**

- Approve or moderate startup and investor profiles.
- Monitor system performance and resolve technical issues.
- Enforce security measures and prevent fraudulent activities.

Each user class plays a critical role in ensuring a **smooth, transparent, and effective** investment ecosystem on *Let's Grow*.

## **2.5. Operating Environment**

The *Let's Grow* platform is a **web-based application** designed to operate in a secure, scalable, and high-performance environment. It will function across various devices and operating systems to ensure accessibility for all users.

### **1. Hardware Requirements**

- **Server Infrastructure:** Cloud-based hosting with scalable architecture.
- **User Devices:** Desktop computers, laptops, tablets, and smartphones.
- **Network Requirements:** A stable internet connection for seamless platform interaction.

### **2. Software Requirements**

- **Operating Systems:** Compatible with Windows, macOS, Linux, Android, and iOS.
- **Web Browsers:** Supports Chrome, Firefox, Edge, Safari, and other major browsers.

- **Backend Technology:** Node.js with a MySQL/PostgreSQL database.
- **Frontend Technology:** React.js for an intuitive and responsive user experience.

### 3. Security & Performance

- **Data Protection:** Encrypted user data and role-based access control.
- **Scalability:** Capable of handling up to 1000 concurrent users.
- **Availability:** 99.9% uptime with cloud-based redundancy for disaster recovery.

The system is designed to ensure **accessibility, high security, and reliability**, providing a **seamless** experience for both **startups and investors** across multiple devices.

## 2.6. User Classes and Characteristics

The *Let's Grow* platform is developed within specific constraints that impact its design and implementation. These constraints ensure feasibility, maintainability, and security while meeting user requirements.

### 1. Design Constraints

- **Platform Type:** The system is designed as a **web-based platform only**, with no mobile application in the initial release.
- **User Interface (UI) Restrictions:** The UI must be **simple, intuitive, and responsive**, ensuring accessibility across devices.
- **Security Standards:** The platform must comply with **data protection regulations** (e.g., encryption, role-based access control).
- **Scalability:** The system should handle **up to 1000 concurrent users** while maintaining performance.
- **Technology Stack:** Uses **React.js for the frontend** and **Node.js with a MySQL/PostgreSQL database for the backend**.

### 2. Implementation Constraints

- **Hosting Limitations:** Initially deployed on a **cloud-based server** with limited computing resources.
- **Budget Constraints:** Development and operational costs must remain within the **allocated budget** of LKR 42,000.
- **Third-Party Integrations:** Limited reliance on external APIs to minimize security risks and reduce dependencies.
- **Development Timeframe:** The project must be completed within **16 weeks**, following an agile development approach.

These constraints ensure the *Let's Grow* platform is **secure, scalable, and cost-effective** while maintaining high usability and performance.



## 2.7. Assumptions and Dependencies

### 1. Assumptions

These are conditions assumed to be true for the *Let's Grow* platform to function as intended:

- **User Participation:** Both startups and investors will actively engage with the platform.
- **Stable Internet Access:** Users will have a reliable internet connection to access the platform.
- **Regulatory Compliance:** The platform will comply with **data protection laws** and other legal requirements.
- **Technological Compatibility:** Users will access the platform via **modern browsers** (Chrome, Firefox, Edge, Safari).
- **Data Accuracy:** Startups will provide **genuine** business proposals, and investors will provide **authentic** credentials.
- **Security Measures:** Users will adhere to platform security guidelines to prevent unauthorized access.

### 2. Dependencies

These are external factors that influence the project's success:

- **Hosting Provider:** The platform relies on a **cloud-based hosting service** for availability and scalability.
- **Third-Party Services:** APIs for authentication, email notifications, and data encryption must remain operational.

- **Development Frameworks:** The system is built using **React.js (frontend)** and **Node.js (backend)**; any issues in these frameworks may impact development.
- **User Adoption Rate:** The platform's success depends on the **active participation** of both startups and investors.
- **Funding and Maintenance:** The project must secure sufficient **funding** for hosting, security updates, and future upgrades.

By considering these **assumptions and dependencies**, *Let's Grow* ensures smooth operations and mitigates potential risks.

### **3. External Interface**

This interface is designed to understand the flow to the team members. Real finish application might have different UI

## 4. System Features

The **Let's Grow** platform provides an interactive and user-friendly interface for startups and investors to connect efficiently. Below are the key system features categorized based on user roles and platform functionalities.

### 1. User Management

- **Startup Registration:** Startups can register with specific details, including business name, industry, and investment needs.
- **Investor Registration:** Investors can create profiles detailing their investment interests and sectors.
- **User Authentication:** Secure login with password encryption and authentication mechanisms.
- **Profile Management:** Users (startups and investors) can update and manage their profiles.

### 2. Startup Features

- **Proposal Submission:** Startups can submit detailed business proposals with investment requirements.
- **Proposal Editing & Deletion:** Startups can modify or remove their proposals.
- **Dashboard:** Personalized dashboard to track investor interactions.
- **Filtering System:** Startups can find investors matching their business needs.

- **Investment Portfolio Management:** Startups can upload financial plans, growth strategies, and funding history.

### 3. Investor Features

- **Proposal Browsing:** Investors can search and filter startup proposals by sector, funding stage, and business potential.
- **Direct Contact with Startups:** Investors can reach out to startups without third-party intervention.
- **Investor Dashboard:** Investors can manage saved startups and track their investment interests.
- **Startup Filtering System:** Investors can refine search results based on industry, funding stage, and expected ROI.

### 4. Platform Administration

- **Content Moderation:** Ensures that only verified and relevant content is published.
- **User Verification:** Authentication of both investors and startups to maintain credibility.
- **Error Handling:** Displays meaningful error messages for better user experience.
- **Security & Compliance:** Ensures data encryption, role-based access, and compliance with data protection laws.

## 5. Performance & Scalability

- **System Load Handling:** Capable of supporting up to 1000 active users.
- **99.9% Uptime:** Ensures high system availability.
- **Cross-Browser Compatibility:** Supports major browsers for seamless user experience.

## 6. Usability & User Experience

- **Responsive Design:** Accessible on desktops, tablets, and mobile devices.
- **Intuitive Navigation:** Easy-to-use interface for all user types.
- **Multilingual Support:** Future integration of multiple languages for global reach.

## 5. Other Non-Functional Requirement

### 1. Performance Requirements

- The platform should handle **up to 1000 concurrent users** without performance degradation.
- The response time for user actions (e.g., login, proposal submission, filtering) should be **under 3 seconds**.
- The system should support **asynchronous processing** for handling investor-startup interactions.

### 2. Scalability Requirements

- The platform should be designed to **support future growth** with a modular architecture.
- It should allow easy integration of **new features** like AI-driven recommendations for startups and investors.
- Database optimization techniques (e.g., indexing, caching) should be used to handle **increasing data loads**.

### 3. Security Requirements

- **Role-Based Access Control (RBAC)** should be implemented to ensure only authorized users access certain features.
- **Data Encryption** (AES-256) should be applied to store sensitive investor and startup information.
- **Two-Factor Authentication (2FA)** should be enabled for investors and startups for enhanced security.
- Regular **security audits** and compliance with **Sri Lanka's Data Protection Act** should be maintained.

### 4. Usability & Accessibility Requirements

- The system should follow **WCAG 2.1** standards to ensure accessibility for all users, including those with disabilities.
- A **responsive design** should make the platform fully functional on desktops, tablets, and mobile devices.

- The UI should be intuitive with **simple navigation** for users with minimal technical knowledge.

## 5. Reliability & Availability Requirements

- The platform must maintain **99.9% uptime** with automatic failover mechanisms.
- A **backup and recovery system** should be in place to prevent data loss in case of failures.
- The system should provide **meaningful error messages** instead of generic failure alerts.

## 6. Maintainability & Extensibility

- The codebase should follow **modular and well-documented** best practices for easy updates.
- Future enhancements (e.g., mobile app integration) should be easily implemented without major architectural changes.
- API endpoints should be designed for **seamless integration** with external services.

## 7. Compliance & Legal Requirements

- The system must comply with **Intellectual Property Regulations** to prevent unauthorized content usage.
- Adhere to **consumer protection laws** ensuring fair treatment of startups and investors.
- Implement **AML (Anti-Money Laundering) checks** to verify investment sources.