Software Engineering Lab

**Problem Statement:**

The mission of UniThreads is to transform the way college students participate in fashion entrepreneurship. By offering a full platform that enables brand creation, e-commerce integration, collaboration, marketing, event management, progress tracking, and security measures, the initiative aims to empower students. In the end, UniThreads hopes to become a catalyst for student success in the fashion business by promoting creativity, entrepreneurship, and teamwork within the university community using cutting-edge web and mobile applications.

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**1.Introduction**

**1.1 Purpose**

This Software Requirements Specification (SRS) document serves as a guide for the requirements involved in developing UniThreads, a platform that will enable college students to establish and run their own apparel companies both on campus and off.

**1.2 Scope**

Aspiring student entrepreneurs will have access to the tools and resources they need from UniThreads to start and grow their fashion businesses. The platform will make it easier to manage users, create and manage brands, integrate e-commerce, collaborate and network, promote and market, manage events, track progress, and implement security measures.

**1.3 Definitions, Acronyms, Abbreviations**

>SRS: Software Requirements Specification

>UniThreads: The name of the project

>E-commerce: Electronic commerce

>HTML5: Hyper Text Markup Language version 5

>CSS3: Cascading Style Sheets version 3

>JavaScript: A programming language for web development

**1.4 References**

Source 1: E-commerce integration industry standards

Source 2: Contemporary online and mobile application design principles

Source 3: Best practices for database management

**2.Overall description**

The UniThreads platform will be created as an intuitive web and mobile application with the use of cutting-edge web technology and modern design concepts. It will place a high value on a smooth and interesting user experience, encouraging innovation, entrepreneurship, and teamwork among university students

**2.1 Product perspective**

With online and mobile interfaces, UniThreads will function as a stand-alone system and communicate with users. For transactions, it will interface with third-party e-commerce platforms and store data in a database management system.

**2.2 Product Function**

User administration, brand building and management, e-commerce integration, networking and collaboration, marketing and promotion, event planning, progress monitoring, and security protocols are some of UniThreads primary features.

**2.3 User Characteristics**

University students with varied degrees of technology proficiency and business aspirations will be the main users of UniThreads.

**2.4 User Constraints**

To interact with UniThreads, users need to have access to internet-connected devices, such as laptops or smartphones. Users also have to follow the community guidelines and terms of service on the platform.

**2.5 Assumptions and Dependencies**

Users of UniThreads are assumed to know the fundamentals of using mobile and online applications. It may also rely on third-party services for some functionalities, and it processes payments through external e-commerce platforms.

**2.6 Apportioning requirements**

Certain criteria may take precedence over others in the event of limitations or constraints during development in order to guarantee the timely delivery of crucial functionalities.

**3.Specific Requirements**

**3.1 Interface requirements**

**3.1.1 External Interface**

> User interfaces for mobile and web.

> Integration with third-party e-commerce platforms.

**3.1.2 Hardware Interface**

Compatible with your everyday web browsers and mobile devices, no matter what kind a phone or tablet you're using.

**3.1.3 Software Interface**

>Utilizes HTML5, CSS3, and JavaScript for front-end development, just like any modern website. As for storing data, it connects to a database management system, which is basically like a digital filing cabinet.

**3.1.4 Communication Interface**

Secure communication protocols are super important for sending data from one place to another without anyone snooping around or stealing it. There are lots of different ways to do this, and it's kind of like playing a game where you have to make sure your secrets stay safe. You gotta use codes, encryption, and other cool stuff to make sure that only the people you want to see your information can actually see it.

**3.2 Functional Requirements**

**3.2.1 Use case model/Information flows**

>Users can make an account, sign in, and customize their profile.

>They can design and personalize clothing items, create brand logos, and manage their collection of branded stuff.

>They can link their account to an e-commerce platform to sell their creations, keep track of inventory, and handle payments securely.

>Students can connect with other designers, manufacturers, and marketers, work on projects together, and share ideas.

>They can make marketing materials, promote their work on social media, and see how well their campaigns do.

>Organize and host events like fashion shows and pop-up shops, coordinate with everyone involved, and make sure everything goes smoothly.

>Keep an eye on how their designs are doing, check sales numbers, customer feedback, and other important details.

**3.2.2Use case Specifications/Process Descriptions**

Later sections will have particular specifications for each use scenario.

**3.2.3 Analysis classes/Data Dictionary**

To explain the linkages and data structures in UniThreads, class diagrams and data dictionaries will be given.

**3.3 Performance requirements**

Concurrent user interactions ought to be supported by UniThreads without noticeably degrading performance. User activities should respond within reasonable bounds, and the system should be expandable to handle a rise in the volume of users.

**3.4 Logical database requirements**

In order to effectively store and retrieve user profiles, apparel designs, inventory, sales data, event information, and other pertinent data, the database structure should be created. For the purpose of maintaining data integrity and improving query performance, appropriate indexing and normalization strategies must be used.

**3.5 Design Constraints**

For a smooth and interesting user experience, UniThreads should follow contemporary design guidelines and usability best practices. When developing, compatibility with different mobile platforms and web browsers should be taken into account.

**3.6 Software system attributes**

**3.6.1 Reliability**

With little downtime and strong error-handling capabilities to guard against data loss or corruption, UniThreads ought to be dependable.

**3.6.2 Availability**

In order to guarantee uninterrupted operation, UniThreads should have redundant infrastructure and failover techniques.

**3.6.3 Security**

To safeguard user data, UniThreads should implement strong security measures, such as role-based access controls, robust authentication procedures, and encryption of sensitive data.

**3.6.4 Maintainability**

With a modular code architecture, extensive documentation, and version control mechanisms in place to support upcoming upgrades and improvements, UniThreads ought to be simple to maintain.

**3.6.5 Portability**

UniThreads ought to be adaptable to diverse settings and platforms, working with a range of web browsers, mobile devices, and operating systems.

**4.Supporting Information**

To accompany this Software Requirements Specification, other materials such as test plans, system architectural diagrams, and user manuals will be supplied.