PROJECT PROPOSAL

GROUP PROJECT

ASSIGNMENT 1

MAY 2025 SEMESTER

TIKTOK SHOP

SOFTWARE ENGINEERING AND HCI

TEB2014

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Software Description

Background of the Software

TikTok Shop is an integrated e-commerce feature that is part of the TikTok social media platform. With the integration of a shop on a social media platform, it has enabled users to discover, promote, and purchase products directly within the application. This innovation, blending e-commerce and social media platforms together, has exemplified the evolution of digital commerce by merging entertainment, community interaction, and retail functionality into a single, cohesive ecosystem.

The primary objective of TikTok Shop is to transform the way users interact with products online by embedding commerce into short-form video content and live streaming. Unlike traditional e-commerce platforms that rely on static product listings, TikTok Shop leverages user-generated video content and influences marketing to drive product visibility and engagement. Through this model, consumers are more likely to make purchasing decisions based on relatable, real-time demonstrations, and social proof. Besides that, it creates more opportunities for product promotion where a product is much more visible compared to traditional e-commerce platforms like Shopee, Lazada, and Shopify.

In terms of the technical and underlying mechanics that make TikTok shop an efficient and powerful e-commerce software, TikTok Shop includes features such as in-video product tagging that allows users to directly purchase the product without needing to search for it, integrated payment systems where interested buyers don't have to hassle to make payment, real-time inventory management that provides the seller useful insights for future planning, and performance analytics for sellers that greatly benefits the sellers in terms of benchmarking. These tools empower merchants, content creators, and brands to establish and manage digital storefronts, track performance metrics, and engage directly with potential customers.

Stakeholders

1. **End Users (Shoppers):**
   - Individuals browsing, liking, sharing, and purchasing products featured in videos.
   - Users discover new trends and deal with the platform.
   - Users that consume the media on the platform

2. **Sellers (Content Creators & Businesses):**
   - Small business owners, influencers, and brands who showcase their products via short videos.
   - They manage their storefronts, handle orders, and interact with customers.
   - The user of software that creates contents for consumption

3. **Platform Administrators (Developers/Operators):**
   - Manage system functionality, handle user reports, and ensure smooth operation.
   - Oversee transactions, monitor content, and maintain data security.
   - Responsible for shipping need features for clients that innovate or make the software better

4. **Clients (Platform Owners/Investors):**
   - Individuals or companies funding and owning the platform who expect profitability, scalability, and user engagement.
   - Individuals that are responsible for strategic planning to make sure that the software has a competitive edge against the competitors

5. **Regulatory Bodies:**
   - Ensure the app complies with data privacy laws, e-commerce regulations, and content moderation standards.
   - Ensure that the user's sensitive data is protected from being misused by the software's organization

Description of Main Features and Functionalities of Stakeholders

For End Users (Shoppers)

- **User Registration & Profile Management:** Create personal accounts, set preferences, and manage saved items/orders.
- **Short Video Feed:** Browse algorithm-driven videos featuring product promotions.
- **Product Tagging and Direct Purchase:** Tap on tagged products in videos to view details and purchase directly.
- **Search & Filter:** Search for products, sellers, or content by keyword, category, or popularity.
- **Wishlist & Cart:** Save favorite items and manage orders before checkout.
- **Reviews & Ratings:** Provide feedback on products and seller services.

For Sellers (Businesses & Creators)

- **Storefront Creation:** Set up digital storefronts showcasing products and associated videos.
- **Content Upload Tools:** Upload and edit short videos promoting their products.
- **Product Management:** Add/edit product listings with images, descriptions, prices, and stock levels.
- **Order & Inventory Management:** View, process, and track customer orders.
- **Sales Analytics:** View real-time insights into views, conversions, top-performing products, and revenue.

For Platform Administrators

- **User Management:** Monitor user activities, manage reports, and enforce platform rules.
- **Content Moderation Tools:** Review flagged content and maintain a safe, respectful environment.
- **Transaction Oversight:** Monitor payment processing, dispute resolution, and refund requests.
- **Security & Compliance:** Ensure platform security, protect user data, and enforce legal compliance.

For Clients (Owners)

- **Ad & Promotion Management:** Manage in-app advertisement opportunities and promotional campaigns.
- To make sure the software stays competitive in the industry and market.

Scope of the Project and Time Stamp

Identifying Requirements (Week 1)

- Identifying product features and necessary needs of each stakeholder and their perspective for each interface they are using.
- Uses various references to identify the requirements, such as using references from other e-commerce websites and using media to identify current trends of user requirements.
- Interview and Survey can be utilized to identify requirements for the software. The interview is conducted between the product owner and the team.

Designing the Software (Week 2)

- Designing the user interface of the software to make sure the interface is easy to navigate and understand.
- Making sure designed user interface will meet user's needs for a comfortable experience of the developed software.

Coding the Features (Week 3 – 10)

1. **User Authentication (Log-In, Log-Out, Sign-in, Forgot Password)**
   a. Existing users must be provided with a choice of logging in and out of the software.
   b. New users will have to be provided with a registration to input their details and await verification to sign up for the software.
   c. Users can create a new password if they choose to or if they have forgotten their current one

2. **User Profile**
   a. Customers are to be able to view their details on the profile such as personal details, delivery information, items listed, and history of purchased products
   b. Customers can change their personal details on the profile page.

3. **Seller's Dashboard**
   a. Sellers can add, edit, and remove listed products from their shops.
   b. Seller track quantities of the listed products on sale to manage their restocking and shipments.
   c. Sellers can monitor the performance of the listed products for their shops and receive reviews of the products sold.

4. **Product Listing Feature**
   a. Users can see the products being sold in the application such as product title, image, price, brief description, and ratings.

5. **Payment Handling**
   a. Users are prompted to choose which paying methods they will use to pay for their orders, namely Cash on Delivery (COD) or Online Banking with one time payments links to their desired bank accounts or third-party payment software like Touch N Go E-Wallet.

6. **Product Filtering Feature**
   a. Users can filter their search results based on price, size, preferences, and brand.
   b. Users will be able to search for products based on review ratings of a certain category of products they are searching for.

7. **Algorithm to Determine Buyer's Interested Product**
   a. An algorithm is developed to personalize the search results and tailor recommendations for users based on their interest and past purchasing history.
   b. Users may also input their current interests on the application to further improve their experience.

8. **Product Reviews**
   a. Customers may provide their reviews of the product after purchasing it.
   b. Review and ratings are based on product conditions and quality, and delivery process.

9. **Database**
   a. A database for customers and sellers is monitored by the clients of the platform.

Testing and Debugging (Week 11)

- After implementing the software, the software will undergo testing to ensure the desired results according to each stakeholder's requirements
- Software will be debugged for unwanted bugs or last minutes undesired aspects of the product.

Software Release (Week 12)

- Software is released after it has been checked and upon the stakeholders' approval.
- Planning for future maintenance and updates is to be done every now and then.

Project Gantt Chart

The duration of the whole project is 12 weeks (60 working days). Our group is implementing the Scrum method to develop the software.

Activities	Week No.											
	1	2	3	4	5	6	7	8	9	10	11	12
Sprint 0a: Identifying Requirements	▮	▮										
Sprint 0b: Software Design	▮	▮										
Sprint 1: Code Feature 1		▮										
Sprint 2: Code Feature 2			▮									
Sprint 3: Code Feature 3 + Sprint Retrospective				▮								
Sprint 4: Code Feature 4					▮							
Sprint 5: Code Feature 5						▮						
Sprint 6: Code Feature 6 + Sprint Retrospective							▮					
Sprint 7: Code Feature 7								▮				
Sprint 8: Code Feature 8									▮			
Sprint 9: Code Feature 9 + Sprint Retrospective										▮		
Testing and Debugging											▮	
Software Release												▮

Scrum Detailed Activities

- Sprint planning is conducted every week before each sprint. It decides what to do in each sprint and how to do it.
- The scrum team will hold a short meeting that lasts around 15 minutes every working day that is known as a "stand-up meeting." The meeting usually covers developers involved in scrum to update their progress on sprints and update the team if there are any problems faced.
- Developers, the Scrum Master, and the product owner need to attend the stand-up meeting.
- Sprint execution is done every week to get the software features done.
- After each sprint, a sprint review is held. The purpose of this is to show what was accomplished, and feedback is gathered.
- Improvement areas for each sprint are also identified.
- Every 3 weeks, a sprint retrospective is held to discuss the Scrum team's performance, identify challenges, and plan improvements for the next sprint.