Kingdom of Saudi Arabia

Ministry of Education

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Collage of Computer Engineering and sciences

المملكة العربية السعودية

وزارة التعليم

جامعة الأمير سطام بن عبدالعزيز

كلية الهندسة وعلوم الحاسب

Project subject:

Instagram

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I. Feasibility Study &Project Proposal

➢ Introduction:

Instagram is a highly popular social media platform that allows users to share visual content, connect with others, and offers tools for businesses to advertise and analyze their performance.

➢ Problems

We have become aware of the presence of fake social media accounts, including some on Instagram, with fake followers and engagement. We understand that this can negatively impact the authenticity of the platform and we are taking steps to address this issue.

➢ Background

Instagram was launched in 2010 as a photo-sharing app for iOS devices and quickly gained popularity, reaching over 100 million users in 2012. Facebook acquired Instagram for $1 billion, and the platform continued to grow, adding new features such as video sharing, live streaming, and direct messaging. Today, Instagram is an important marketing tool for businesses, with sponsored posts and Instagram Stories ads.

➢ Proposed solution

Instagram is contemplating using advanced algorithms and machine learning to identify and eliminate fake followers. In addition, they plan to cooperate with third-party verification services and provide users with tools to improve their content.

➢ Work plan

To address fake users, Instagram will use advanced algorithms, work with third-party verification services, educate users, offer content enhancement tools, increase transparency and communication, and regularly monitor and adjust its strategy.

II. Project requirements

➢ Functional requirements (FR) :

- for user:

N	Functional	Description
1	**Account creation**	Users should be able to create an account on Instagram using their email address or phone number.
2	**Profile creation**	Once an account is created, users should be able to create a profile that includes their name, username, profile picture, and bio.
3	**Posting photos and videos**	Users should be able to upload photos and videos to their profile, along with captions and hashtags.
4	**Newsfeed**	Users should be able to see a feed of photos and videos posted by the accounts they follow.
5	**Liking and commenting**	Users should be able to like and comment on posts made by other users.
6	**Direct messaging**	Users should be able to send direct messages to other users.
7	**Stories**	Users should be able to post temporary stories that disappear after 24 hours.
8	**Search**	Users should be able to search for other users, hashtags, and content.

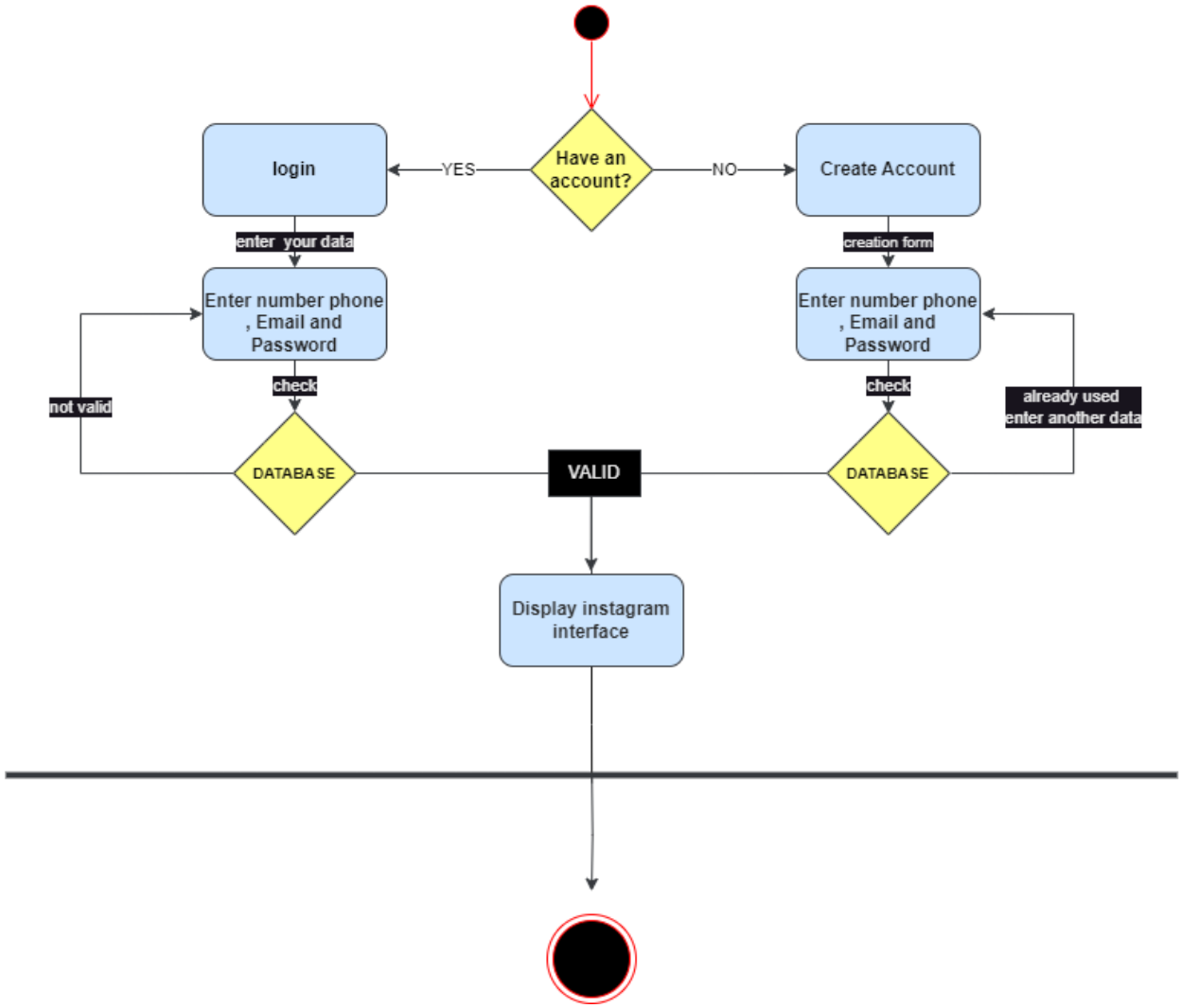
- for system:

N	Functional	Description
1	**User authentication**	The system should authenticate users, ensuring that only valid users can access the application.
2	**Image and video processing**	The system should be able to process and store images and videos uploaded by users in various formats and sizes.
3	**Database management**	The system should manage a large database of user profiles, images, videos, and other related data.
4	**Content delivery**	The system should be able to deliver user content efficiently to other users, regardless of their location.
5	**Notifications**	The system should notify users when they receive new followers, likes, comments, or direct messages.
6	**Security**	The system should have robust security measures in place to protect user data and prevent unauthorized access.
7	**Search functionality**	The system should provide fast and accurate search results for user profiles, hashtags, and content.
8	**Advertising**	The system should support advertising and sponsored content, allowing businesses to reach potential customers.

➢ Non-Functional requirements (FR) :

N	Non-Functional	Description
1	**performance**	The system should be able to handle a large volume of user traffic and content uploads, ensuring fast response times and minimal downtime.
2	**Reliability**	The system should be highly reliable, with minimal errors, crashes, or data loss.
3	**Security**	The system should be highly secure, with robust measures in place to protect user data and prevent unauthorized access.
4	**Privacy**	The system should respect user privacy and comply with relevant laws and regulations, such as GDPR and CCPA.
5	**Accessibility**	The system should be accessible to users with disabilities, complying with WCAG 2.1 guidelines.
6	**Usability**	The system should be user-friendly, with an intuitive interface and straightforward navigation.
7	**Maintainability**	The system should be easy to maintain, with well-documented code and clear separation of concerns.
8	**Compatibility**	The system should be compatible with different devices, browsers, and operating systems.

III. Activity diagram



IV. Use Case Modelling

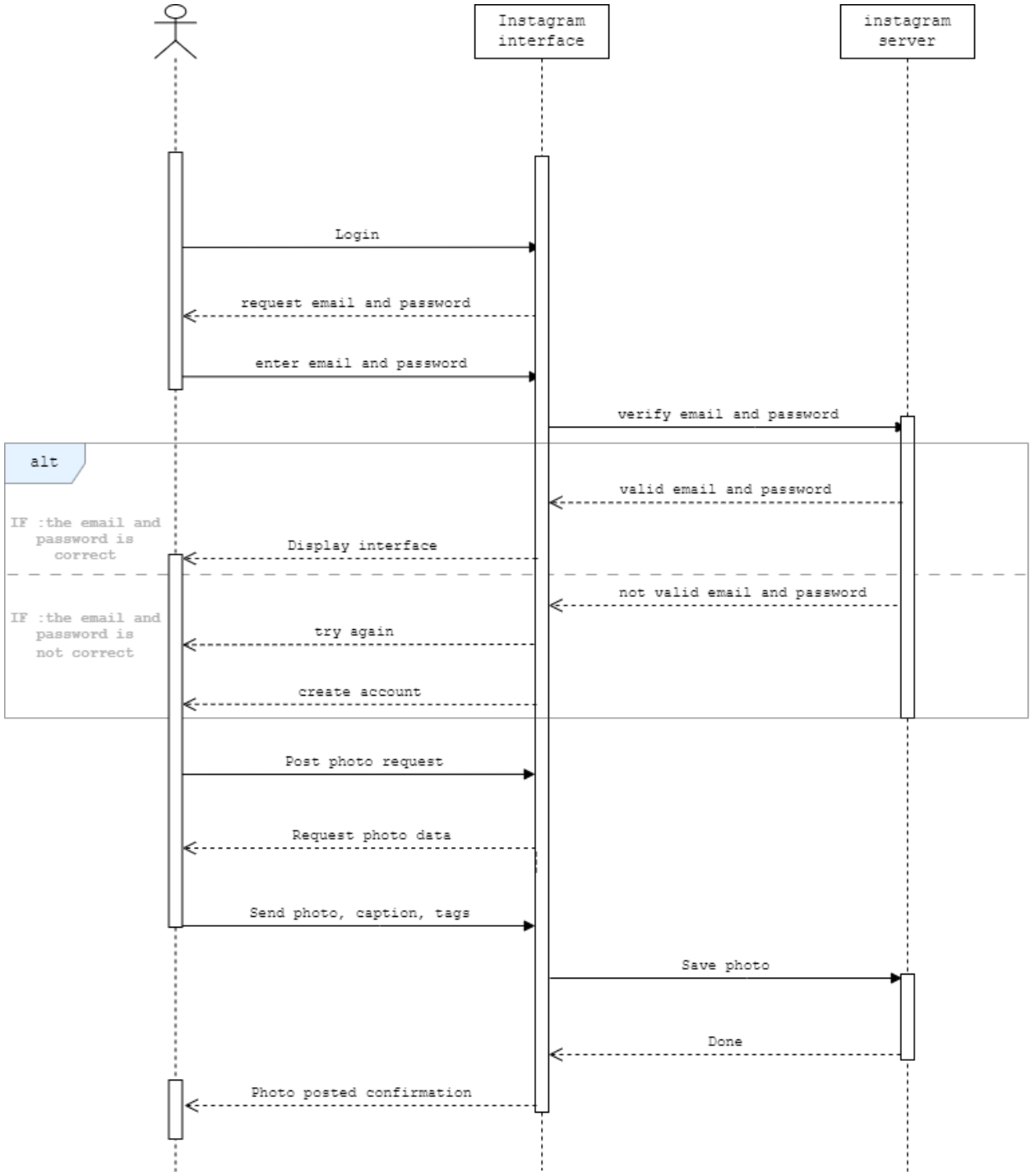
➢ Table 1:

Instagram user : Post a Photo	
Actors	User.
Description	User posts a photo to their Instagram profile.
Data	Photo from user's device, caption, tags.
Stimulus	User selects "Post Photo" button.
response	Photo is posted to user's profile and feed.

➢ Table 2:

Instagram user : Like a Photo	
Actors	User.
Description	User likes a photo on Instagram.
Data	Photo that user wants to like.
Stimulus	User taps the like button under the photo.
response	Like count is incremented and photo owner notified.

V. Sequence Diagrams



VI. Class Diagram