

# CL 2 External Practical

## ▼ EAC

- ▼ 1. Write a short report on planning, securing, and governing the enterprise architecture.

### Aim

The aim of this comprehensive report is to delve deeply into the multifaceted aspects of planning, securing, and governing enterprise architecture. In today's dynamic and technology-driven business environment, a strategic approach to managing enterprise architecture is critical for organizations to attain their goals, ensure data security, maximize operational efficiency, and foster innovation.

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### Problem Statement

Modern organizations grapple with a range of challenges related to their enterprise architecture:

- **Complexity:** Enterprises often operate intricate IT landscapes, incorporating a myriad of systems, applications, databases, and technologies. This complexity can impede agility and hinder decision-making.
- **Security:** The escalating threat landscape demands robust security measures to protect sensitive data and intellectual property. Weaknesses or lapses in the architecture can lead to devastating data breaches and financial losses.
- **Alignment with Business Objectives:** Effective enterprise architecture should be intricately tied to an organization's strategic objectives. Misalignment can result in wasted resources and a failure to capitalize on emerging opportunities.

- **Governance:** Without proper governance, enterprise architecture can become fragmented, leading to inconsistencies in practices, suboptimal resource allocation, and misalignment with overarching business goals.
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## Requirements

To effectively address the aforementioned challenges, several critical requirements must be met:

- **Clear Strategy:** Organizations should develop a well-defined enterprise architecture strategy that harmonizes with their business objectives. This necessitates the identification of key stakeholders, establishment of architectural principles, and the creation of a coherent roadmap for architecture development.
  - **Risk Assessment:** Regular and comprehensive risk assessments should be conducted to proactively identify vulnerabilities within the architecture. Mitigation measures, including access controls, encryption, and authentication mechanisms, should be deployed to mitigate these risks. Staying abreast of evolving cybersecurity threats is paramount.
  - **Documentation:** A robust documentation framework must be maintained to chronicle the current and target states of enterprise architecture. This documentation serves as a critical resource for both strategic decision-making and operational continuity.
  - **Standardization:** The implementation of architectural standards and best practices is vital in reducing complexity and ensuring consistency across the enterprise. This includes the utilization of well-established frameworks like TOGAF or Zachman.
  - **Governance Framework:** A governance framework should be meticulously established to oversee and manage all enterprise architecture activities. This entails the definition of clear roles and responsibilities, the creation of review boards, and the enforcement of compliance with architectural standards and policies.
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## **Report**

### **Planning Enterprise Architecture**

Effective planning is the cornerstone of sound enterprise architecture management. Organizations must begin by thoroughly understanding their strategic objectives and then delineate how their enterprise architecture can support and further these goals. Key activities include identifying stakeholders, defining architectural principles, and creating a detailed roadmap for architecture development.

### **Securing Enterprise Architecture**

Security is non-negotiable in today's digital landscape. Organizations must consistently assess security risks within their enterprise architecture and implement robust measures to safeguard against threats. These measures include, but are not limited to, access controls, encryption, authentication mechanisms, and continuous monitoring. Staying informed about the evolving threat landscape and adhering to best practices is essential.

### **Governing Enterprise Architecture**

Governance plays a pivotal role in ensuring the coherence and effectiveness of enterprise architecture. Establishing a governance framework involves defining clear processes and structures to manage and control architectural activities. This encompasses the formation of review boards, the assignment of roles and responsibilities, and the enforcement of compliance with architectural standards and policies. Effective governance ensures that the enterprise architecture remains aligned with the organization's strategic direction and optimally supports its objectives.

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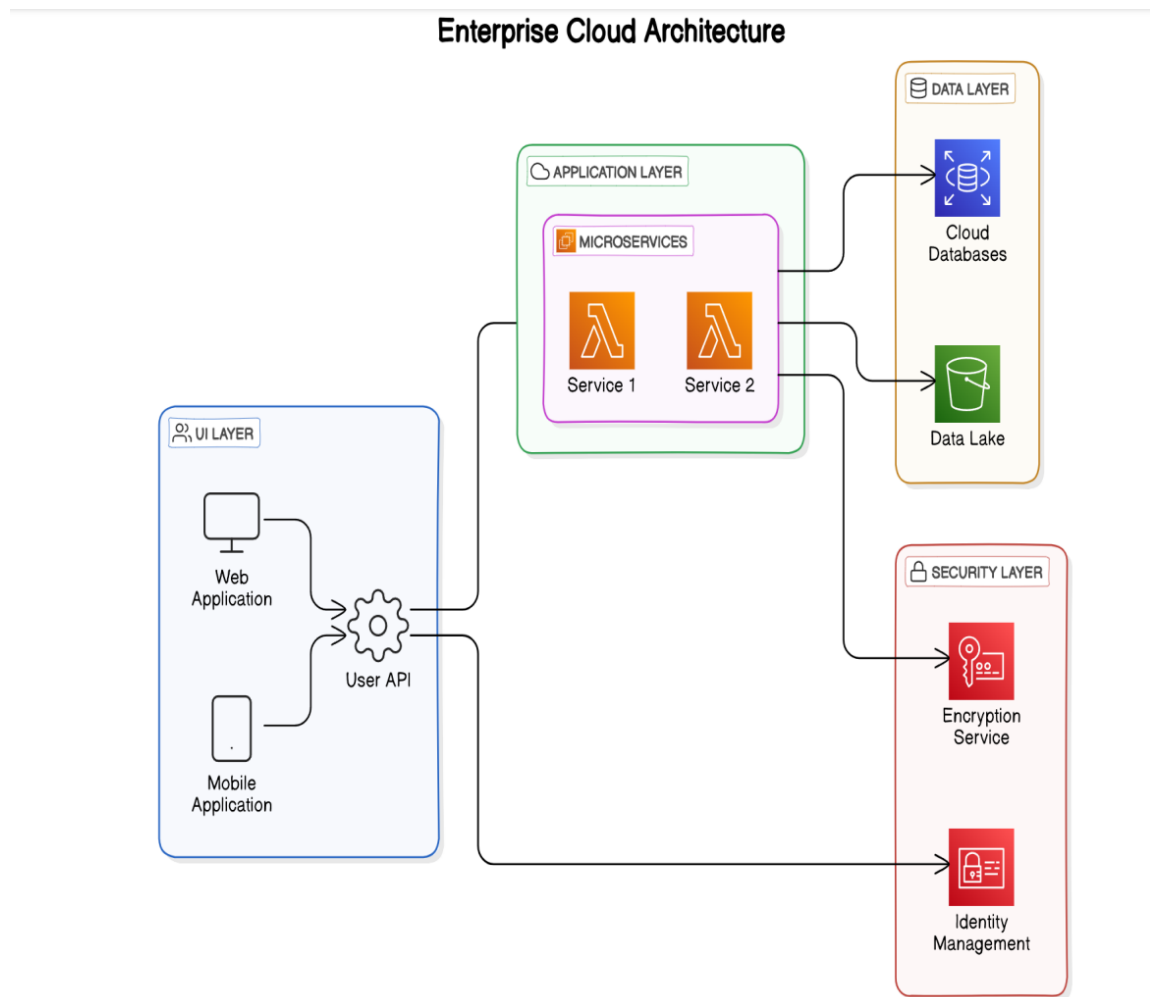
### **Conclusion**

In conclusion, the planning, securing, and governing of enterprise architecture are multifaceted endeavors that are indispensable to the success and resilience of modern organizations. A well-structured and strategically aligned enterprise architecture not only enables agility and innovation but also fortifies an organization's defenses against an ever-

evolving threat landscape. By prioritizing these aspects, organizations can optimize their IT infrastructure, mitigate risks, and foster a culture of innovation, thereby positioning themselves for sustained success in today's competitive business environment.

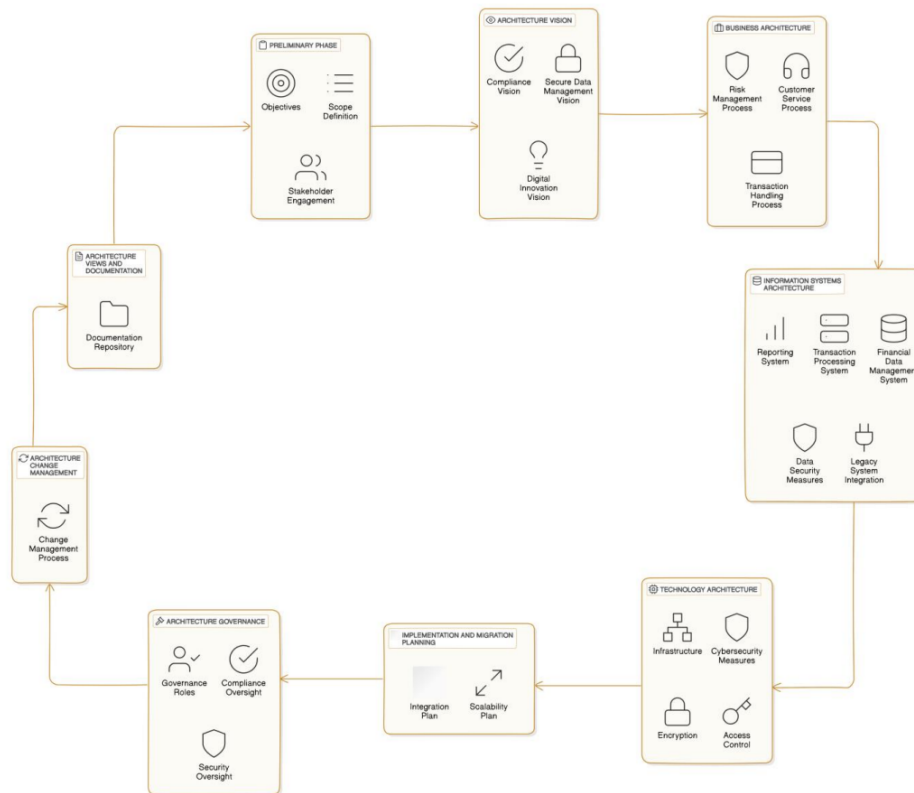
It is imperative that organizations embrace these principles to navigate the complex landscape of enterprise architecture effectively.

- ▼ 2. Sketch enterprise architecture with emerging technologies such as cloud / IoT / AI / Blockchain.

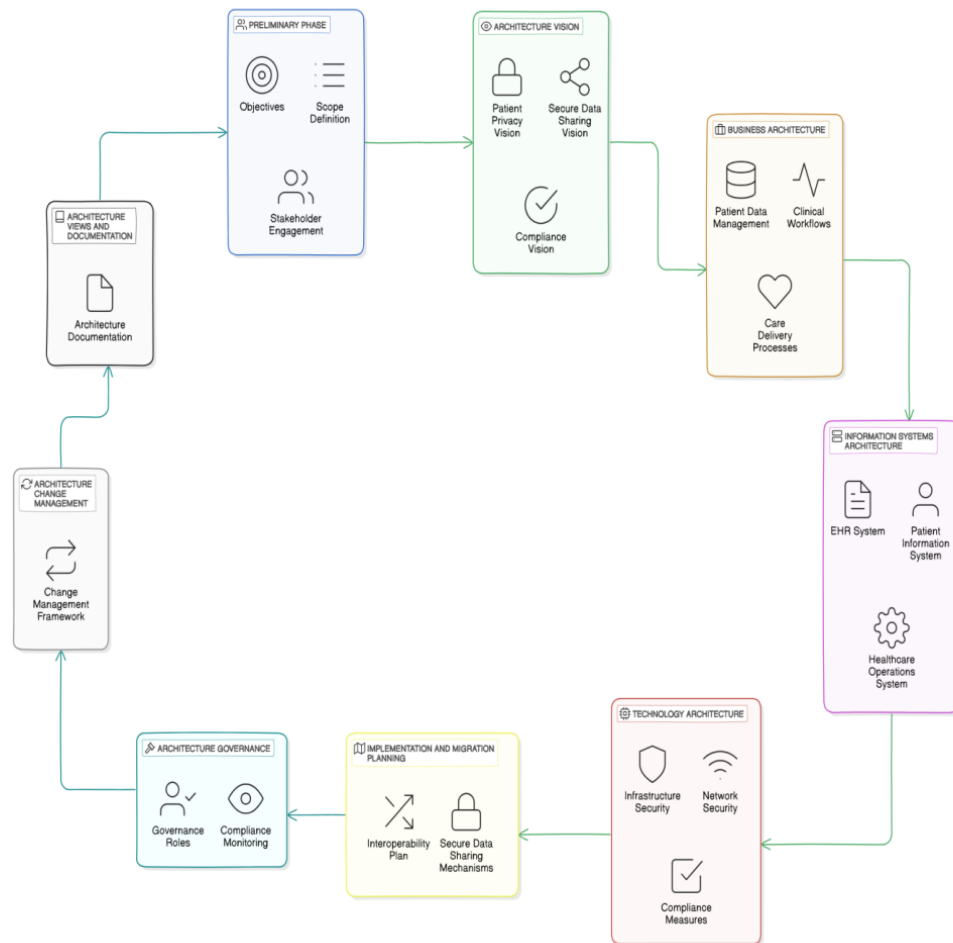


- ▼ 3. Design and Implement enterprise architecture using TOGAF for banking/healthcare domain.

## Enterprise Architecture for Banking Domain using TOGAF

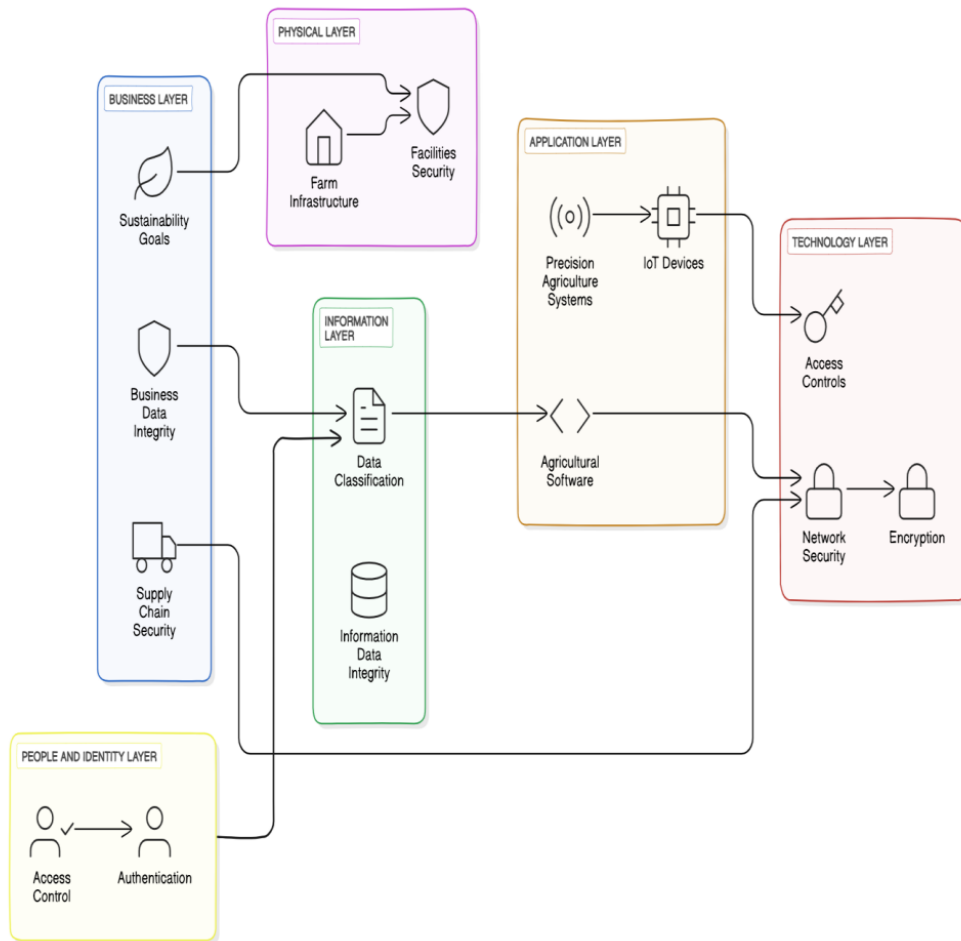


## Enterprise Architecture for Healthcare Domain using TOGAF



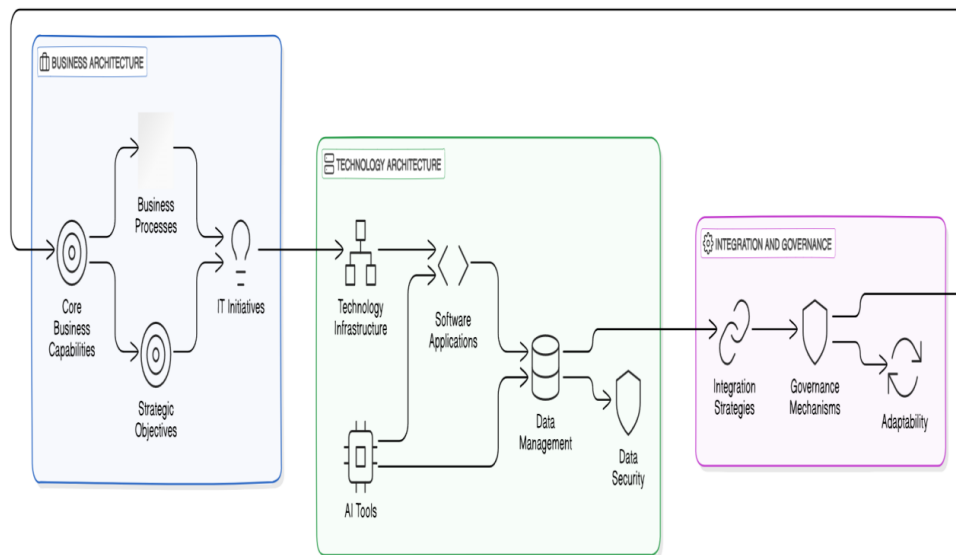
▼ 7. Design an enterprise information architecture that includes a detailed component model and operational model.

### Enterprise Security Architecture for Agriculture Domain (SABSA Framework)



- ▼ 6. Design and implement an enterprise architecture framework for a hypothetical organization, considering the key components such as business architecture and technology architecture.

## Enterprise Architecture Framework for IT Alignment



## ▼ UI / UX

- ▼ 1. Design user persona for the users of selected product / system.

I. How To Create A User Persona (Video Guide) - YouTube

II. How to Create A User Persona in 2022 [FULL GUIDE] - YouTube

**NAME:** Savannah Rodriguez

**PERSONAL BACKGROUND**

- AGE:** 52
- STATUS:** Divorced mother of two
- EDUCATION:** Master's degree in Chemistry

**PROFESSIONAL BACKGROUND**

- OCCUPATION:** Full-time Pharmaceuticals company
- INCOME:** 65,000 per year

**USER ENVIRONMENT**

- LOCATION:** Her office
- DEVICES:** Mostly on a laptop, but also on her iPad.

**PSYCHOGRAPHICS**

- Enjoys luxury spa retreats.
- Hates tourist traps.
- Appreciates exclusivity.
- Enjoys authentic local cuisine.
- Prefers to travel alone or with one other person.
- Tends to favour quality over economy.

**END GOALS**

Use holiday-booking app to discover and book luxurious, off-the-beaten-track holiday destinations.

**SCENARIO**

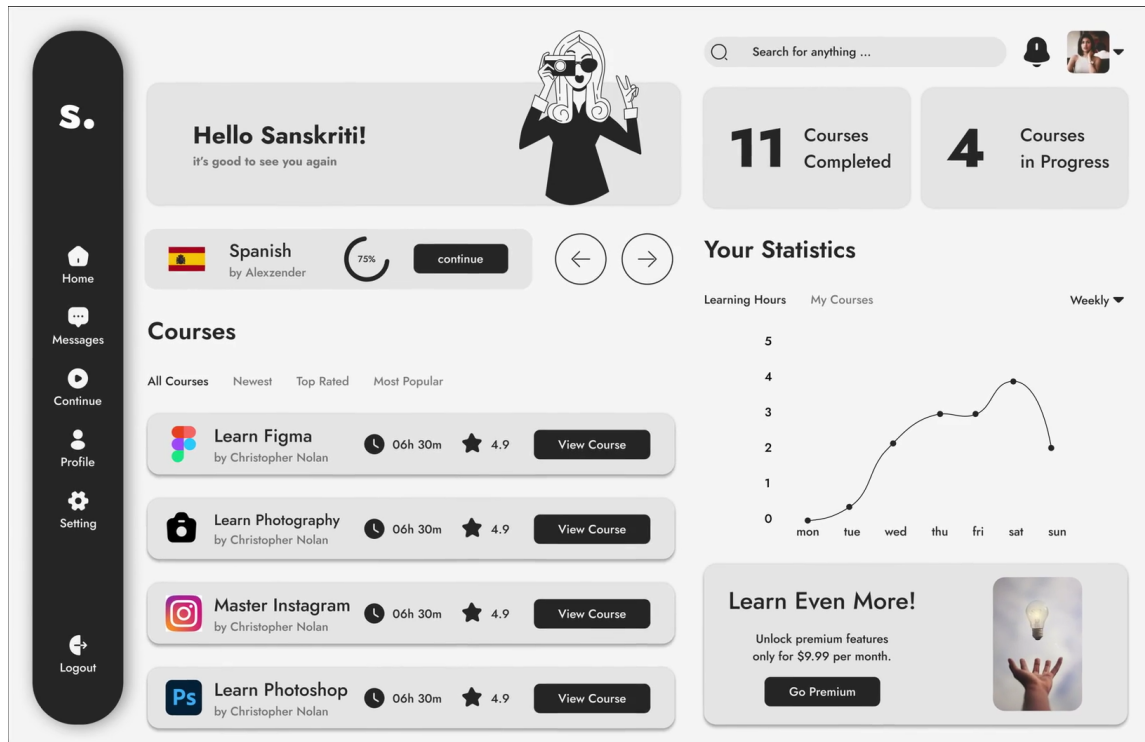
"At least once a year, I like to go away on a luxury holiday. I try to discover places I've never been to before, and to stick to destinations that aren't yet overrun with tourists. I work full time, so I don't have that much time to browse and book each individual element of my holiday. Ideally, I'll find some kind of package deal that comes with local restaurant recommendations..."

*"Take me to undiscovered holiday destinations away from the tourist traps."*



- ▼ 2. Online Learning Platform: Design a wireframe for an online learning platform that includes course listings, video lectures, quizzes, and progress tracking.

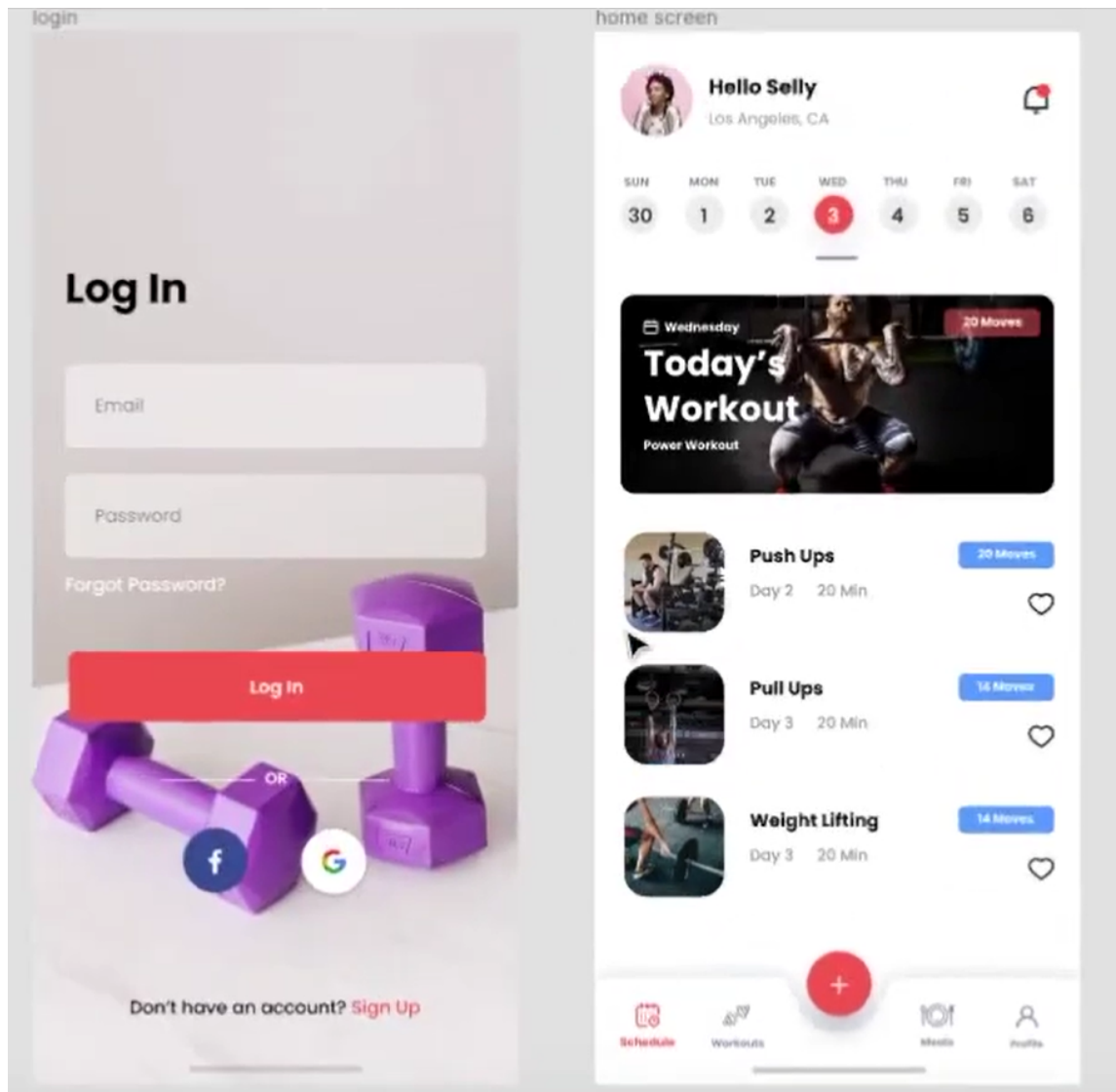
### I. E-learning Website Design in Figma - YouTube



- ▼ 3. Designing a Social Fitness App: Create wireframes and a prototype for a social fitness app that allows users to track workouts, connect with friends, and share progress.

Design the user interface for logging exercises, setting goals, and incorporating social features.

### I. Fitness App Design In Figma || Figma Tutorial || Design & Prototyping - YouTube



▼ 6. Use Figma tool for Improving the User Interface of a Fitness Tracking App: Improve the user interface of an existing fitness tracking app by focusing on simplicity, clarity, and motivational elements. Enhance features like tracking workouts, setting goals, and visualizing progress to create a more engaging and intuitive experience.

I. Figma Fitness mobile app Design | design a Fitness app in Figma | UIUX Design 2021 |  
Techno-fine - YouTube



## WHOLE DESIGN

▼ 4. Product Packaging Mockup: Choose a product and create a mockup of its packaging design. Use a mockup tool that specializes in packaging design or graphic design. Design the product packaging, including the layout, colors, logos, and product visuals. Showcase the packaging design from different angles and perspectives.

I. Poster or Flyer Mockup: Select a specific event, campaign, or promotional material. Design a poster or flyer using a graphic design tool with mockup capabilities. Create a visually appealing mockup of the poster or flyer in different sizes and formats. Showcase the design within a realistic environment or context, such as a wall or display.



## ▼ EAC Viva Questions

### Assignment 1: Planning, Securing, and Governing Enterprise Architecture

#### 1. Key Steps in Planning Enterprise Architecture

- Identify business goals and strategy.

- Assess current architecture and resources.
- Define the target architecture.
- Develop a roadmap to bridge current and target architecture.
- Implement and evaluate continuously.

## **2. Importance of Aligning Enterprise Architecture with Business Objectives**

- Ensures the architecture supports strategic goals, improves agility, and optimizes resource allocation. Misalignment can lead to wasted resources and reduced competitiveness.

## **3. Common Security Risks and Mitigations**

- Risks include data breaches, insider threats, and compliance issues. Mitigations involve enforcing access controls, using encryption, regularly updating security policies, and conducting audits.

## **4. Role of Governance in Enterprise Architecture**

- Governance ensures architecture aligns with organizational standards, is compliant, and adapts to changes. It provides oversight, establishes policies, and reviews architecture effectiveness.

## **5. Key Components of a Governance Framework**

- Policies and standards, performance metrics, review boards, and accountability structures are essential. Together, they guide architecture to meet both technical and business objectives.

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# **Assignment 2: Enterprise Architecture with Emerging Technologies**

## **1. Integrating Cloud Computing**

- Cloud computing enhances flexibility, scalability, and cost efficiency by reducing reliance on physical infrastructure. It also enables rapid scaling to meet dynamic demands.

## **2. Benefits and Challenges of IoT in Enterprise Architecture**

- Benefits include real-time data collection and process automation. Challenges involve securing IoT devices, managing vast data, and integrating them with existing systems.

### 3. Leveraging AI and Machine Learning

- AI/ML can improve decision-making by analyzing large datasets, predict trends, and automate repetitive tasks, enhancing efficiency and supporting data-driven strategies.

### 4. Enhancing Security with Blockchain

- Blockchain offers decentralized data storage and cryptographic security, ensuring data integrity, transparency, and minimizing fraud in data transactions.

### 5. Ensuring Interoperability Between Technologies

- Compatibility, standard protocols, and API integration are vital. Consistent data formats and interoperability standards ensure seamless operation across technologies.

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## Assignment 3: Designing Enterprise Architecture using TOGAF for Banking/Healthcare

### 1. Key Phases of TOGAF Framework

- **Architecture Vision:** Define objectives and scope.
- **Business Architecture:** Align processes with goals.
- **Information Systems Architecture:** Data and application structures.
- **Technology Architecture:** Technology tools and platforms.
- **Opportunities and Solutions:** Identify projects and resources.
- **Migration Planning:** Transition roadmap.
- **Implementation Governance:** Monitor projects.
- **Architecture Change Management:** Adapt to changes.

- In banking, ensures compliance; in healthcare, safeguards patient data.

## 2. Importance of Stakeholder Engagement

- Stakeholder engagement ensures the architecture meets varied needs, secures support, and incorporates feedback for a holistic approach.

## 3. TOGAF on Regulatory Compliance

- TOGAF embeds compliance within the architecture by setting clear requirements and standards, vital for highly regulated sectors like banking and healthcare.

## 4. Security for Patient Data in Healthcare

- Strict access controls, encryption, regular audits, and compliance with regulations like HIPAA are essential to protect sensitive health data.

## 5. Achieving Interoperability in Healthcare Systems

- Enterprise architecture enables integration standards, API-based connectivity, and compliance with interoperability frameworks like HL7 and FHIR.

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# Assignment 4: Enterprise Security Architecture with SABSA for Finance/Defense/Agriculture

## 1. Six Layers of SABSA Framework

- **Contextual:** Business requirements and goals.
- **Conceptual:** Define security services.
- **Logical:** Model for security processes.
- **Physical:** Implementation technologies.
- **Component:** Specific products/tools.
- **Operational:** Day-to-day security management.

## 2. Risk-Driven Approach in SABSA



- SABSA prioritizes risks to align security architecture with business goals, focusing on specific threats and vulnerabilities per domain.

### **3. Unique Security Challenges by Domain**

- Finance: Fraud, data privacy.
- Defense: National security, espionage.
- Agriculture: IoT vulnerabilities, data integrity.

### **4. Importance of Data Encryption and Access Controls**

- Encryption ensures data remains secure during transit/storage, while access controls limit exposure to authorized personnel only.

### **5. Incident Response Planning**

- Incident response helps maintain continuity and minimize impact during security breaches, ensuring a rapid, effective response to threats.

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## **Assignment 5: Designing an Enterprise Architecture Framework for a Hypothetical Organization**

### **1. Relationship between Business and Technology Architecture**

- Business architecture defines organizational goals and processes, while technology architecture provides the tools and systems to support them.

### **2. Key Components of Business Architecture**

- Includes business strategy, processes, and governance, which guide technology decisions to ensure they support organizational goals.

### **3. Layers of Technology Architecture**

- **Infrastructure:** Hardware and network.
- **Application:** Software solutions.
- **Data:** Information storage and management.
- **Security:** Protection mechanisms.

#### **4. Promoting Innovation and Adaptability**

- A flexible enterprise architecture framework encourages modularity, allowing the integration of new technologies without disrupting existing systems.

#### **5. Challenges in Aligning IT with Business Goals**

- Common challenges include budget constraints, resistance to change, and technological limitations. Address these through clear alignment strategies, stakeholder engagement, and phased implementation.

## **▼ UI / UX Viva Questions**

### **Assignment 1: Designing User Personas**

#### **1. Concept of User Personas and Their Significance**

- User personas are fictional characters that represent typical users of a product. They are significant in UI/UX design as they help designers empathize with users and make user-centered design choices based on real needs, behaviors, and goals.

#### **2. Gathering Data for User Personas**

- Data can be gathered through user interviews, surveys, analytics, and demographic research. Observing user behavior and analyzing usage patterns also help in creating accurate personas.

#### **3. Essential Elements of a User Persona**

- Include demographic details, goals, pain points, behaviors, and user preferences. These elements ensure a comprehensive understanding of the user's context and help in designing relevant features.

#### **4. Using Personas to Guide Design Decisions**

- Personas help designers prioritize features, tailor content, and create a UI that resonates with target users. They ensure the design addresses real user needs rather than hypothetical ones.

#### **5. Using Personas to Identify Usability Issues Early**

- Personas highlight potential pain points, such as complicated navigation for less tech-savvy users, enabling designers to preemptively resolve these issues.

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## **Assignment 2: Wireframe for an Online Learning Platform**

### **1. Purpose of Wireframing in UI/UX Design**

- Wireframes provide a visual blueprint of the layout and structure of a webpage or app screen. They are essential for planning the information hierarchy, functionality, and user flow.

### **2. Key Considerations for Online Learning Platform Wireframe**

- Include intuitive course listings, clear navigation, accessible video sections, and progress tracking. Design for ease of use and an engaging learning experience.

### **3. Ensuring Effective Navigation and Information Hierarchy**

- Prioritize key actions like enrolling in courses, accessing materials, and checking progress. Use headings, buttons, and visual grouping to guide users through the platform.

### **4. Considering User Interaction and Flow**

- Map out user journeys, from course discovery to tracking completion, to ensure a smooth experience and avoid potential frustrations.

### **5. Testing and Validating Concepts with Wireframes**

- Wireframes allow for early feedback from users or stakeholders. They help validate layout and functionality before investing in high-fidelity designs.

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## **Assignment 3: Designing a Social Fitness App**

### **1. Unique Challenges in Designing a Social Fitness App**

- Challenges include balancing social features with workout tracking, integrating motivation tools without overwhelming the user, and ensuring privacy in shared data.

## **2. Balancing Detailed Tracking with User-Friendly Interface**

- Use simple visual indicators, easy-to-read data summaries, and intuitive buttons. Avoid clutter and maintain easy access to both social and tracking features.

## **3. Importance of Motivational Elements and Social Features**

- Motivation features like badges, progress streaks, and friend challenges enhance user engagement and encourage consistency in workout routines.

## **4. Promoting Habit Formation and Consistent Usage**

- Features like reminders, goal-setting, and celebrating small achievements help users form habits and return to the app regularly.

## **5. Using Prototyping Tools like Figma**

- Figma allows designers to create interactive prototypes, enabling early testing of user flows and fine-tuning the user experience based on feedback.

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# **Assignment 4: Improving a Fitness Tracking App's UI Using Figma**

## **1. Principles of Simplicity, Clarity, and Motivation in UI Design**

- Simplicity avoids clutter, clarity ensures information is easily understood, and motivation engages users through visual elements like progress charts and goal reminders.

## **2. Using Figma for an Intuitive UI Design**

- Figma's tools for component libraries, prototyping, and real-time collaboration streamline the creation of a user-friendly and visually cohesive interface.

### **3. Importance of User Feedback and Iterative Design**

- Regular feedback ensures that the design meets user expectations, and iterative improvements help refine the app based on real-world usage and preferences.

### **4. Effective Techniques for Visualizing Progress and Achievements**

- Use visual elements like graphs, badges, and milestone banners to celebrate progress and achievements, making them easily accessible and motivating for users.

### **5. Aligning Redesigned UI with Brand Identity**

- Consistent colors, typography, and iconography reinforce brand recognition and ensure the app feels familiar and authentic to the target audience.

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## **Assignment 5: Product Packaging Mockup**

### **1. Role of Packaging Design in Product Marketing and Brand Communication**

- Packaging is often the first brand interaction; it conveys brand identity, attracts attention, and communicates the product's value proposition to consumers.

### **2. Key Considerations for Colors, Typography, and Imagery**

- Choose colors that stand out and resonate with the brand, readable and appealing typography, and imagery that represents the product's purpose and quality.

### **3. Importance of Understanding Target Audience and Market Positioning**

- Packaging should appeal to the target demographic and reflect the product's position in the market, such as premium or budget-friendly.

### **4. Using Mockup Tools for Realistic Representations**

- Tools like Adobe Dimension or Canva help create lifelike mockups to showcase packaging design, helping stakeholders visualize the final

product.

## **5. Presenting Packaging Design to Stakeholders and Addressing Feedback**

- Use high-quality mockups to communicate design intentions and gather feedback. Be open to suggestions and iterate based on constructive feedback to ensure stakeholder satisfaction.