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| **Author** | **Reviewer** | **Approver** |
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**Exercise: Leveraging ChatGPT and Figma AI Plugins / Readdy.AI Across the Full-Stack Development Life Cycle**

**1. Objectives**

* Demonstrate how ChatGPT and Figma AI plugins / Readdy.AI can support each phase of full-stack web application development.
* Encourage reflection on the impact of AI tools in enhancing development speed, consistency, and overall experience.

**2. Problem Statement**

In modern development, AI tools like ChatGPT and Figma AI plugins are changing how full-stack applications are built. However, many developers struggle to use these tools effectively at each stage of the SDLC. This assignment challenges learners to apply ChatGPT and Figma AI plugins in a hands-on project, uncovering both their strengths and limitations across requirement analysis, design, development, testing, deployment, and documentation.

**3. Inputs / Shared Artifacts**

Define and explore how ChatGPT and Figma AI plugins support the development of a simple full-stack web app (e.g., e-commerce application) across these SDLC phases:

**Features to Focus:** User Registration, Login, Product Catalog.

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| **SDLC Phase** | **Task** | **AI Tool Used** |
| Requirement Analysis | Convert vague ideas into structured user stories | ChatGPT |
| Design | Create wireframes, UI layout, workflow diagrams | Figma AI plugins (Text to Design) / Readdy.AI |
| Development | Generate backend routes, frontend components, logic | ChatGPT |
| Testing | Write unit test cases and validation logic | ChatGPT |
| Deployment | Write simple deploy scripts or guides | ChatGPT |
| Documentation | Generate README, usage examples, etc. | ChatGPT |

**4. Expected Outcomes**

Your final submission must include:

**1. Screen Recording (max 5 minutes):**

* Walk through each SDLC phase.
* Show how you used ChatGPT and Figma AI plugins in context.
* Include your final working MVP (locally or deployed).

**2. Supporting Files:**

* Source code of your project (uploaded or GitHub link).
* Screenshots or exports of Figma wireframes.
* A short document (PDF or README.md) summarizing:
  + Prompt examples used with ChatGPT and Figma AI plugins.
  + Challenges encountered and how AI tools helped.
  + Key takeaways.

**5. Concepts Covered**

* Software Development Life Cycle (SDLC)
* AI-assisted planning and development
* ChatGPT for code, tests, and documentation
* Figma AI plugins /Readdy.AI for interface and workflow design
* Presentation and communication of project outcomes

**6. Example: "Simple Task Manager App"**

**Project Description**

A small web application that allows users to:

* Create a task
* View tasks in a list
* Mark tasks as done
* Delete tasks

**Example Application**

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| **Phase** | **How ChatGPT or Figma AI Plugins Helped** |
| Requirement Analysis | ChatGPT helped rephrase rough ideas into 3 user stories |
| Design | Used “Text to Design” plugin in Figma / Readdy.AI to generate wireframes for task list and new task form via prompts |
| Development | ChatGPT generated the Flask route for /add-task and a React component for TaskList |
| Testing | ChatGPT wrote unit tests for the add\_task() function in Python |
| Deployment | ChatGPT suggested how to deploy on local or cloud environment |
| Documentation | ChatGPT generated the README file and usage instructions |

**Example Prompts**

* **Requirement Analysis (ChatGPT):**  
   "Convert the idea of a simple task manager into structured user stories."
* **Design (Figma AI Plugin - Text to Design or Readdy.AI):**  
   "Design a task manager interface with a list of tasks, an input field to add new tasks, and checkboxes to mark tasks as completed."
* **Development (ChatGPT):**  
   "Write a Flask route to create a new task and save it to a list in memory."
* **Testing (ChatGPT):**  
   "Generate unit tests for the add\_task() function in Python."
* **Deployment (ChatGPT):**  
   "Provide steps to deploy a Flask app on localhost."
* **Documentation (ChatGPT):**  
   "Create a README file for a simple task manager app built with Flask."

## **7. Final Submission Checklist**

* **Screen Recording (max 5 minutes):**
  + Walk through each SDLC phase (requirements, design, development, testing, deployment, documentation).
  + Show how you used ChatGPT and Figma AI plugins / Readdy.AI at each stage.
  + Demonstrate your working MVP (local or deployed).
  + Narrate or annotate how AI tools supported your workflow.
* **Supporting Files:**
  + Project source code (as a GitHub or upload link).
  + Screenshots or exports of your Figma / Readdy.AI wireframes and design artifacts.
  + A short documentation file (README or PDF) containing:
    - Examples of prompts used for ChatGPT and Figma AI plugins / Readdy.AI
    - Discussion of challenges encountered and how AI helped or where it fell short
    - Key takeaways about AI-assisted development in full-stack projects
* **Organization & Clarity:**
  + Well-structured submission, with clearly labeled files and sections.
  + All materials submitted before the deadline.