Cairo University
Faculty of Computers and Artificial Intelligence

CS251
Introduction to Software Engineering
Version 2

Project budgetawy

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Project: <budgetawy>

Software Design Specification

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Cursor review:

Cursors remain a leading force in the fast-evolving field of AI-powered code editors. Its sophisticated handling of code context allows for smooth navigation and interaction across complex codebases. A standout feature is its compatibility with multiple models, including support for custom API keys, offering flexibility for developers with specific preferences. The Cursor team is known for pushing the envelope on user experience, frequently introducing new features ahead of the curve. Its chat interface incorporates diverse context sources—including git diffs, past AI chats, web search results, documentation, and multicomponent project (MCP) data—enhancing the accuracy and depth of AI responses. Compared to peers like Cline and Windsurf, Cursor excels with its agentic coding mode, which lets developers guide implementation through conversational prompts. The AI can autonomously edit files, run commands, and follow user direction with minimal friction. Additionally, Cursor's built-in error awareness is a major advantage. It can automatically detect and correct issues like linting and compile-time errors, saving developers time and improving code quality during generation.

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GitHub Copilot:

GitHub Copilot is an AI-powered coding assistant developed by GitHub in collaboration with OpenAI. It is designed to help developers write code faster and more efficiently by offering real-time code suggestions directly in their editor. Copilot supports a wide range of programming languages and is especially proficient in popular ones like Python, JavaScript, TypeScript, and Go. Integrated into editors such as Visual Studio Code, Copilot uses context from the current file and project to generate whole lines or blocks of code, comment completions, and even entire functions. By leveraging a machine learning model trained on vast amounts of public code from GitHub repositories and other sources, it can offer suggestions that follow typical coding patterns, reduce boilerplate work, and assist in problem-solving. While Copilot enhances productivity, it also raises questions about code originality, security, and licensing, particularly when generated code closely resembles copyrighted material. Despite these concerns, many developers find it valuable for prototyping, learning new languages, and exploring unfamiliar APIs. GitHub continues to refine Copilot with new features like Copilot Chat, aiming to make AI a collaborative and responsible partner in the software development process.

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Claude Sonnet :

Claude, developed by Anthropic, is an advanced AI conversational assistant designed to deliver insightful, natural-language responses across a diverse range of topics and tasks. Built on a robust language model trained on extensive datasets, Claude excels at clarifying complex concepts, generating high-quality content, and engaging in nuanced discussions. It produces coherent, well-reasoned answers, creative outputs, and analytical insights tailored to the context of the conversation and provided information.

Claude enhances productivity by streamlining research, sparking innovative ideas, and supporting intellectual tasks, making it an invaluable tool for learning, problem-solving, and professional workflows. Its ability to adapt to user needs fosters efficient collaboration, whether drafting reports, analyzing data, or exploring new perspectives. However, its use raises considerations about over-reliance on AI, the accuracy of generated information, and its appropriate application in critical decision-making scenarios. Anthropic remains dedicated to advancing Claude, continuously enhancing its capabilities and implementing robust safety measures to ensure it remains a trustworthy, ethical, and effective partner in human-AI collaboration.

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سGitHub screens: