Alliance College of Engineering and Design

Department of Computer Science and Engineering and Information Technology

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Review Format-Design Project-I

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Literature Review

Title	Introduction	Method Used	Findings	Conclusion
1) The Rise of Discord *Published By – Jack Vance* *in 2021*	In our digital age, online communities serve as vital hubs for social interaction. Discord, initially designed for gamers, has evolved into a multifaceted platform attracting users from diverse backgrounds. This paper investigates the reasons behind Discord's appeal, its distinctions from other platforms, and strategies for cultivating vibrant communities within its framework.	1) Develop a comprehensive questionnaire exploring Discord usage patterns, preferences, and perceptions, targeting diverse user demographics. 2)Distribute the questionnaire widely across Discord communities to obtain a diverse sample. 3) Conduct interviews with Discord server owners or administrators to gain insights into community management dynamics. 4) Analyze collected data for patterns and trends. 5) Address potential biases by targeting a wide range of user groups and perspectives in survey distribution.	1) Social media integration in education can enhance student motivation and engagement, as seen with Facebook. 2) Online communities must cultivate a sense of safety and belonging to foster commitment among members, aligning with Maslow's hierarchy of needs. 3) Discord's integration with Reddit communities demonstrates its versatility and effectiveness in facilitating daily interactions. 4) Discord's features, such as privacy controls and common interest-based communities, contribute to a comfortable and engaging user experience. 5) Discord's role in education, particularly in supplementing courses, shows promising outcomes in improving student communication, engagement, and performance.	1) Discord serves as a dynamic catalyst for relationship building, requiring continuous effort from both users and administrators to sustain vibrant communities. 2) Its user-friendly interface and extensive customization options contribute to its rapid growth and widespread adoption. 3) From its origins in gaming, Discord has evolved into a versatile platform catering to diverse interests globally. 4) While primarily appealing to a younger, male demographic, Discord's popularity and diversity are steadily expanding. 5) The key to maintaining an active Discord community lies in regular engagement, fair management, and a shared passion for the community's central topic.
2) Discord Use and Intent *Published by - Tyrus Chuang*	In the digital age, online communication platforms have become integral to daily life, with Discord emerging as a prominent player. Despite its	1) 175 participants from a midwestern university completed a 10-minute IRB-approved survey on Discord usage.	1) Discord's viability in online learning was explored in prior research, indicating its potential for creating engaging environments. 2) TAM and UTAUT frameworks are widely	1) Current Discord use is positively linked to social norms and gaming time. 2) Gender, perceived usefulness, ease of use, facilitating conditions, social media use, and

and Rabindra Ratan in 2022	widespread use, limited research explores Discord beyond educational contexts. This study aims to investigate factors influencing Discord adoption as a general communication platform.	2) 20 participants who never used Discord were excluded, resulting in a final sample of 154. 3)Measures included Discord use intent, current use, perceived usefulness, ease of use, social norms, facilitating conditions, time spent gaming, time spent on social media, and dislike for advertisements. 4) Composite metrics were calculated from Likert scale responses. 5) Gender was recorded to assess demographic differences.	used to understand technology adoption, including social media platforms like Facebook and Twitter in educational contexts. 3) Studies on Snapchat and Instagram usage highlight perceived enjoyment as a significant factor influencing user attitudes and behaviors. 4) Previous research on Facebook users emphasizes factors influencing perceived usefulness and enjoyment while using social media. 5) Limited studies apply TAM or UTAUT to Discord adoption, primarily focusing on its use in online learning contexts, contrasting with broader social media research.	dislike for advertising showed no significant associations. 3) Social influence and gaming habits play prominent roles in predicting Discord usage. 4) The absence of advertising did not significantly impact current Discord use. 5) These findings underscore the importance of social factors and leisure activities in shaping Discord usage patterns.
3)Web Application Scalability: A Model-Based Approach *Published by – Lloyd G. Williams and Lloyd G. Williams in 2004*	Web and distributed software systems play pivotal roles in various business functions, necessitating robust scalability to accommodate growing demands. However, scalability remains poorly defined and understood. This paper offers a model-based exploration of scalability in such applications, aiming to demystify this critical software quality attribute.	1) Linear scalability can occur if the degree of parallelism in the application is such that it can make full use of the additional resources provided by scaling. 2) Amdahl's Law [Amdahl 1967] states that the maximum speedup obtainable from an infinite number of processors is $1/\sigma$ where σ is the fraction of the work that must be performed sequentially. 3) The "Super-Serial Model" humorously	1) Analysis reveals significant differences in system behavior between vertical and horizontal scaling due to the MP Effect. 2) Scalability varies based on application and execution environment characteristics. 3) Understanding secondary bottlenecks is crucial before committing to a scaling strategy. 4) Scalability is an economic as well as a technical issue, necessitating consideration of all associated costs.	1) Scalability in distributed systems is crucial but poorly understood. 2) Linear, sub-linear, and super-linear scalability are classified based on relative capacity. 3) Linear extrapolations can be misleading due to inherent non-linearity in scalability functions. 4) Four scalability models are reviewed and applied to Web applications. 5) Scalability is a system property influenced by both

		caricatures overly simplistic problem-solving or decision-making approaches, often overlooking complexity. 4) Gustafson's Law assumes that the parallel portion of the workload increases as the number of processors.	5) Cost-effective choices for meeting performance requirements may not always align with overall scalability.	hardware and software constraints.
4) New technologies for web development *Published by - Grega Jakus, Matija Jekovec, Sašo Tomažič and Jaka Sodnik*	This paper outlines a systematic approach to web-based data collection, leveraging locally developed code. We discuss the evolution of computerized data collection, focusing on web development methods. Using a case study from Starr County, Texas, we detail a web-based method for assessing high school students' work and health status, emphasizing dynamic questionnaire generation.	1) Overview of HTML Structure : Describe HTML's role in defining web page structure, including elements like sections, paragraphs, headings, tables, lists, and forms. 2) Separation of Structure and Style : Discuss the practice of separating HTML for structure and CSS for styling to enhance flexibility and reduce redundancy. 3) Integration of JavaScript : Explain the use of JavaScript for enhancing interactivity and dynamics, interacting with the DOM through various APIs. 4) Evolution of Web Development : Summarize the transition from static to dynamic web pages, emphasizing user contribution and the emergence of Web 2.0.	1) HTML5 introduced several features that includes videos, audios, canvas, progress, meter, time etc. 2) Cascading Styles are used to design and make html components interactive. 3) HTML5 introduces a number of APIs that standardize features already present in today's browsers. 4) Web Workers allow background execution of tasks, preventing slowdowns in the user interface during computation-intensive processes. 5) HTML5 WebSocket protocol enhances real-time data exchange by providing a full-duplex connection, reducing server burden, and facilitating traversal of firewalls and proxies.	1) HTML5 and related tools aim to standardize web technologies, replacing previous hacks and plug-ins with native browser support. 2) The shift towards semantics in web documents signifies a move towards the Semantic Web. 3) HTML5 simplifies multimedia implementation, reducing reliance on Flash. 4) New HTML5 features include microdata, ARIA attributes, and enhanced support for multimedia and dynamic graphics. 5) These advancements reflect evolving development practices and the growing need for rich, semantic web content. by both hardware and software constraints.

5) Design and Development of CHATBOT: A Review *Published by- Rohit Tamrakar, Niraj Wan in 2021*	Computer-aided design (CAD) software has revolutionized mechanical design, integrating with computers and mobile devices for easy, affordable use. Alongside, chatbots have emerged as essential tools, facilitating natural-language communication between users and computers. They offer intelligent responses, enhancing productivity and accessibility across various industries and popular messaging platforms.	1) Parsing: Analyze input text using NLP functions like Dependency Tree, Syntactical Parsing, and Named Entity Recognition. 2) Pattern Matching: Employed by most chatbots to understand various types of user queries. 3) Stimulus-Response Approach: Models natural language to facilitate human-bot dialogue. 4) Chat Script: Structures default responses when no matches occur, incorporating logical and functional elements. 5) Markov Chain: Constructs probabilistic responses based on text occurrences, enhancing response accuracy.	1) Various techniques like NLP, pattern matching, and Markov chains used in making of chat bots. 2) Techniques like parsing, pattern matching, and stimulus-response model are essential for building effective chatbots. 3) Common terminologies like intents, entities, and utterances play crucial roles in training chatbot models. 4) Chatbots are extensively used across various domains such as education, customer service, marketing, insurance, and IoT applications. 5) Multilingual chatbots with human conversational abilities are being developed to enhance user interaction and satisfactionlogies like intents, entities, and utterances play crucial roles in training chatbot models.	1) The review explores the evolution, architecture, classifications, and design techniques of CHATBOTs, underpinned by AI and ML. 2) Various platforms for CHATBOT development are discussed, showcasing their versatility. 3) Practical applications demonstrate CHATBOT's potential in CAD software. 4) CHATBOT offers an alternative approach to procedural-based knowledge in CAD problem-solving. 5) Overall, CHATBOTs exhibit promise in revolutionizing various domains, including CAD software applications, leveraging AI concepts for enhanced problem-solving.s like intents, entities, and utterances play crucial roles in training chatbot models.