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# Comparative Study on Smart Cooking Assistant: A First Step to Develop Intelligent Assistant for Cooking Enthusiasts on Sri Lankan Traditions

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## Abstract

In a rapidly globalizing world where culinary traditions face the risk of being homogenized, the rich and diverse tapestry of Sri Lankan cuisine stands as evidence to cultural heritage. The study embarks on a vital exploration, can Smart Cooking Assistants harness technological innovation to preserve and promote the unique flavours and traditions of Sri Lankan cooking? Existing systems like Food Network's Bot for Messenger, HyperWrite's Sous-Chef, Barkeep, Artificial Intelligence (AI) Food Recommendation Systems, and Recipe Bot offer promising features that enhance the cooking experience but also face challenges related to integration and database management. Through systematic data collection methods involving surveys and literature reviews, this research evaluates the alignment of these systems with Sri Lankan culinary traditions, user preferences, and cultural relevance. This journey unravels opportunities for innovation, emphasizing the refinement of recommendation algorithms, user feedback integration, and user-centered design principles. The design philosophy is rooted in understanding user preferences and dietary restrictions while considering the age and cultural backgrounds of users. Technologically, the integration of AI, natural language processing, and recommendation systems takes center stage to provide a seamless and user-friendly experience. As the research looks to the future, it aspires to enhance personalization, dietary and cultural accommodation, multimodal interaction, advanced nutritional analysis, ethical AI practices, collaboration with culinary experts, and multilingual and cross-cultural adaptation. Thus, this research endeavours to bridge the ever-widening gap between traditional culinary practices and cutting-edge technology, ensuring that the culinary traditions of Sri Lanka remain vibrant, accessible, and preserved for generations to come.

**Keywords**: *Cooking assistance, Natural language processing, Personalization, Dietary preferences, Innovation*