

Home Bridge - Smart Elderly Care System

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Abstract—This paper proposes a recommendation system for the elderly that runs on a consumer smartphone as an interactive mobile application. This study looks at the relationship between depression and the factors contributing to depression in the elderly. Obesity and depression have a bidirectional negative relationship. Older people experience symptoms of depression that have gone undetected and untreated. Therefore, the proposed solution provides the elderly with overcoming depression and loneliness in everyday life and looking after themselves. An elder's life revolves around eating well-balanced meals and staying healthy. This system will include a food picture recognition capability for determining calories and nutritional content. The system will assess the area, size, and volume of food and provide advice such as activities to reduce food's calories. It will also propose alternative healthy food if there is any harmful food in the image. The use of diet to keep improving both health issues is a cornerstone strategy to manage depression in patients. Because chronic diseases and depression have similar physiology, equivalent dietary recommendations could be beneficial. Malnutrition is a significant issue among the elderly. On the other hand, adjusting food-related habits is complicated. Therefore, provide an intelligent meal planning application that recommends appropriate low-calorie food recipes based on the image or voice command of the ingredient.

Keywords—*Malnutrition, depression, calories, recommendation, healthy, elderly, recognition*