

ADAPTING TRADITIONAL FRENCH RECIPES FOR ALZHEIMER'S PATIENTS: ENHANCING NUTRITIONAL, EMOTIONAL IMPACTS & PLEASURE

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1.CONTEXT OF THE STUDY

Alzheimer's disease affects approximately one million people in France (France Alzheimer, 2025)[1] and represents a major public health challenge, particularly for healthcare teams in University Hospitals. The disease leads to cognitive and motor impairments that significantly impact the ability to eat, due to swallowing disorders, reduced motor skills, and decreased interest in food. These difficulties increase the risk of malnutrition and reduced quality of life. Therefore, a key issue arises: **how can food be adapted for patients with Alzheimer's disease while ensuring safety, meeting medical constraints, and preserving the pleasure of eating?** In this context, integrating pleasure as well as sensory and emotional dimensions into nutrition appears to be a promising approach. This includes the use of familiar recipes that may trigger positive memories, visually appealing food presentation, and interactive approaches that encourage active patient participation during mealtimes. This interdisciplinary project brings together engineering students from Institut Agro Montpellier, patients from the Cognitive-Behavioral Unit of Montpellier University Hospital, and culinary arts students from Lycée Georges Frêche. It relies on the complementarity of expertise in food engineering, culinary practices, and healthcare support, as well as on the active involvement of patients in a co-design approach. **The objective of this project is to design and evaluate texture-modified versions of traditional French dishes adapted to the constraints of Alzheimer's disease, while preserving their sensory qualities and emotional value, in order to enhance appetite, promote eating autonomy, and restore the pleasure of shared meals.** Within this framework, patients selected two traditional recipes: **roast chicken stuffed with chestnuts and lemon meringue pie**. Adapted French fries and a fiber-enriched beverage were also developed to complement the meal.

1] France Alzheimer. (2025, 9 septembre). Alzheimer : 1,4 M de personnes malades en 2025. France Alzheimer. <https://www.francealzheimer.org/prevalence-de-la-maladie-dalzheimer-et-des-maladies-apparentees-14-m-de-personnes-malades-en-2025/>

1.RESEARCH & DEVELOPMENT METHODOLOGY

Challenges & innovation levers:

- Dimension and format
- Texture
- Handling (finger food)
- Color
- IDDSI scale between 4 and 6
- Organoleptic properties
- Nutrition (enrich in proteins and fibers)
- Use local and seasonal ingredients

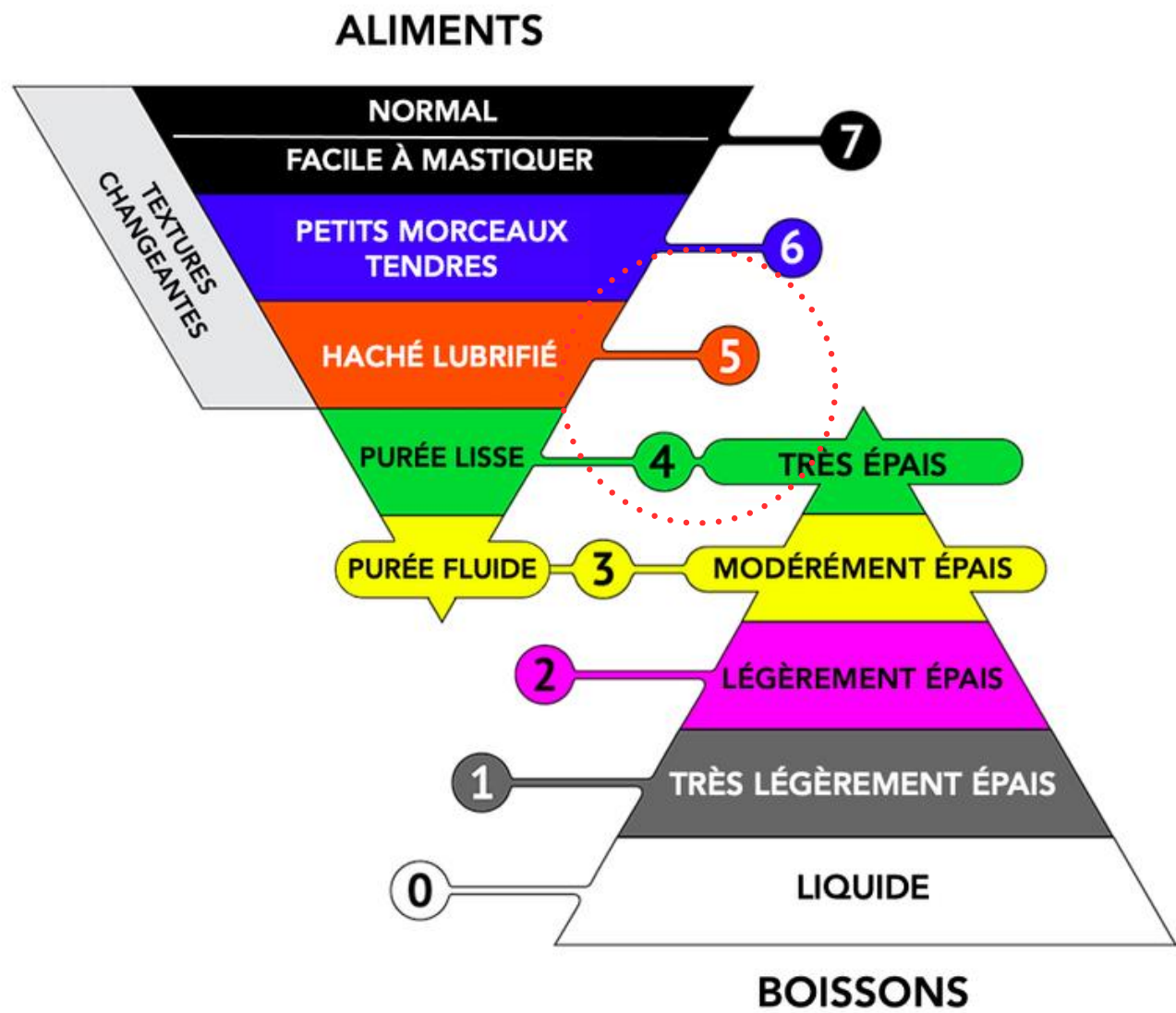


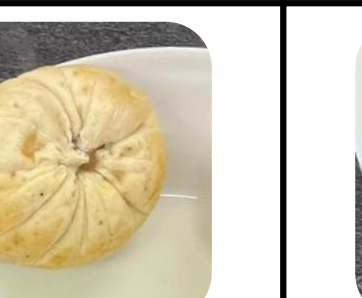
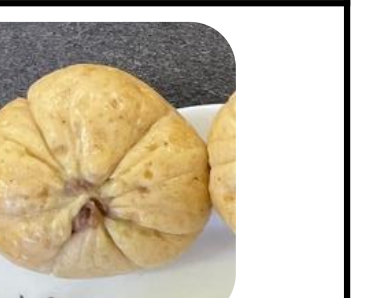
Table 1: Nutrition facts of one individual meal

Energy (kcal)	840
Total Fat (g)	32,68
Saturated fat (g)	11,2
Total carbohydrates (g)	103
Sugars (g)	10,5
Fibers (g)	10
Proteins (g)	33,6
Salt (g)	0,6

Composition of an individual meal:

- 3 chicken ballotins (150g)
- 70g of french fries
- 25g of honey-mustard sauce
- 25g of chicken and mushroom sauce
- 40g of dessert
- 100g of beverage

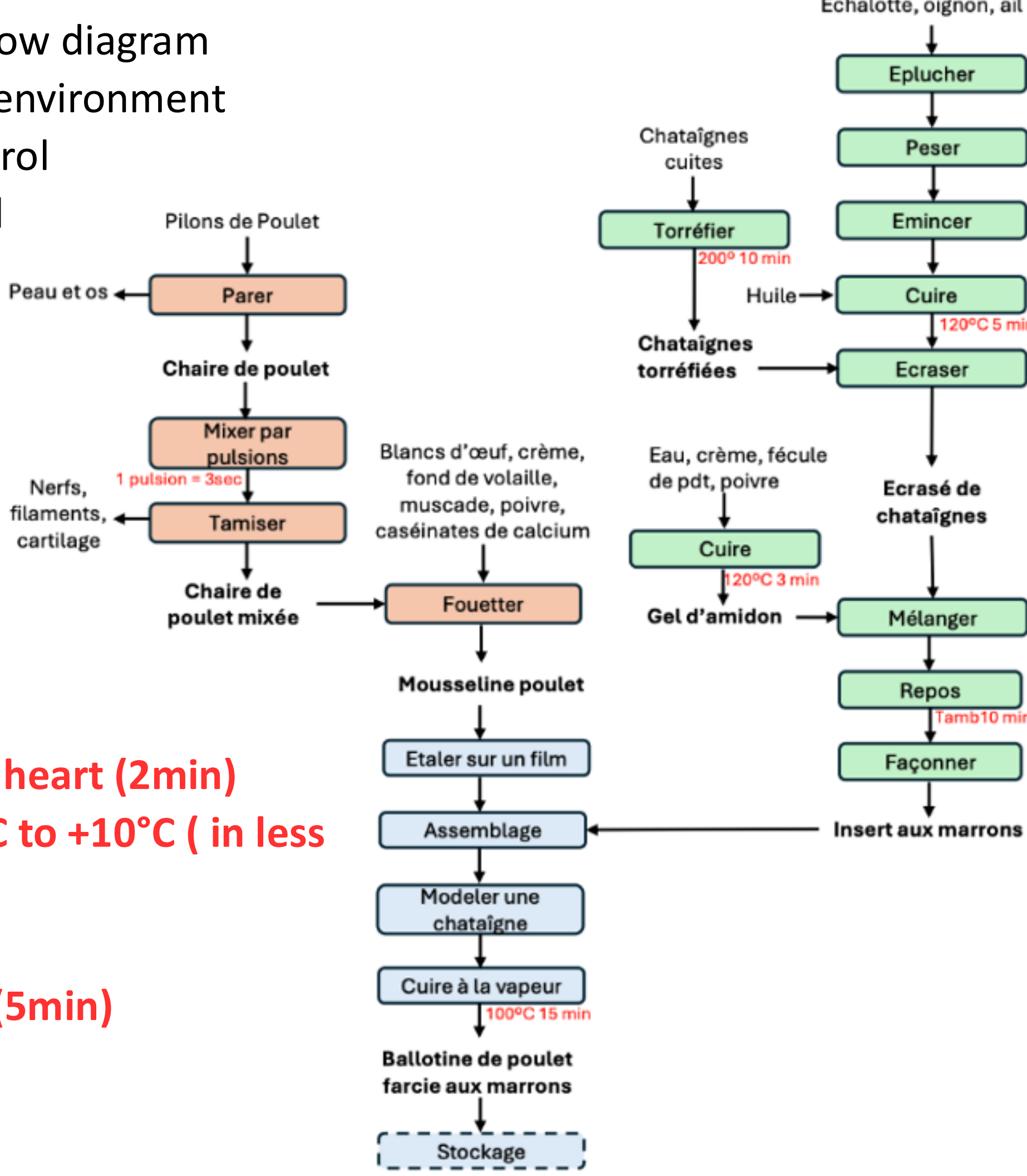
	Ballotin	Fries	Sauce 1	Sauce 2	Dessert	Beverage
						
Results	✓	✓	✓	✓	✓	✓
IDDSI	6	6	4	4	4 (cream) 5 (biscuit)	0

Lactoserm concentrate	Protarmor 80	Potassium Caseinate	Type of proteins	Whey Décathlon	Lactoserm isolat	Calcium Caseinate
						
Golden, slightly wilted surface with visible holes						Very golden, slightly brown, smooth and shiny surface
Slight protein taste, breaks down in the mouth, slightly dry.						Juicy and tender
6	6	6	IDDSI	6	6	6

3.ENSURE THE QUALITY

HACCP METHOD: Based on flow diagram

- a) PRP: General hygiene and environment
- b) OPRP: Specific hazard control
- d) CCP: Critical hazard control



GOOD HYGIENIC PRACTICES

- a) Hygiene rules
- b) Hygiene control sheet

4.CONVIVIAL MEAL

Create a social meal that allows patients with Alzheimer's disease to:

- rediscover the joy of eating,
- stimulate their senses, creativity, and memories,
- maintain fine motor skills through handling food,
- promote communication (verbal and nonverbal),
- enjoy a social experience



Social and sensorial animations:

- 2 different activities (aromatic plants bouquets and sensory experience (ceramic texturized beads))
- < 30 minutes

Analysis:

- Impact assesment questionnaire



5.CONCLUSIONS & PERSPECTIVES

This student project brings together different fields of study to work on a project-based-learning project, in a practical and collaborative way. It was built with partners such as the hospital central kitchen, the Montpellier hospital, Georges Frêche high school, and a local retirement home, allowing strong real-life experience.

This year, a budget for the project was established by students, so it can be repeated and developed on a larger scale in the future as part of collective kitchens. The project shows the value of teamwork between different disciplines and ends with a shared meal experience.

Beyond the academic and professional outcomes, the project also created moments of shared enjoyment and connection, reflected in smiles and a wonderful shared meal.

