Behaviors, Problems and Strategies of Visually Impaired Persons During Meal Preparation in the Indian Context : Challenges and Opportunities for Design

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Context

Preparing a meal is a basic activity needed for survival

It is a complex multi-sensorial task

Many decisions taken when preparing a meal are dependent on sight

Being able to prepare a meal can affect the quality of the life of an individual

There is lowered nutrition levels among Visually Impaired Persons due to their reduced ability to shop and prepare meals independently
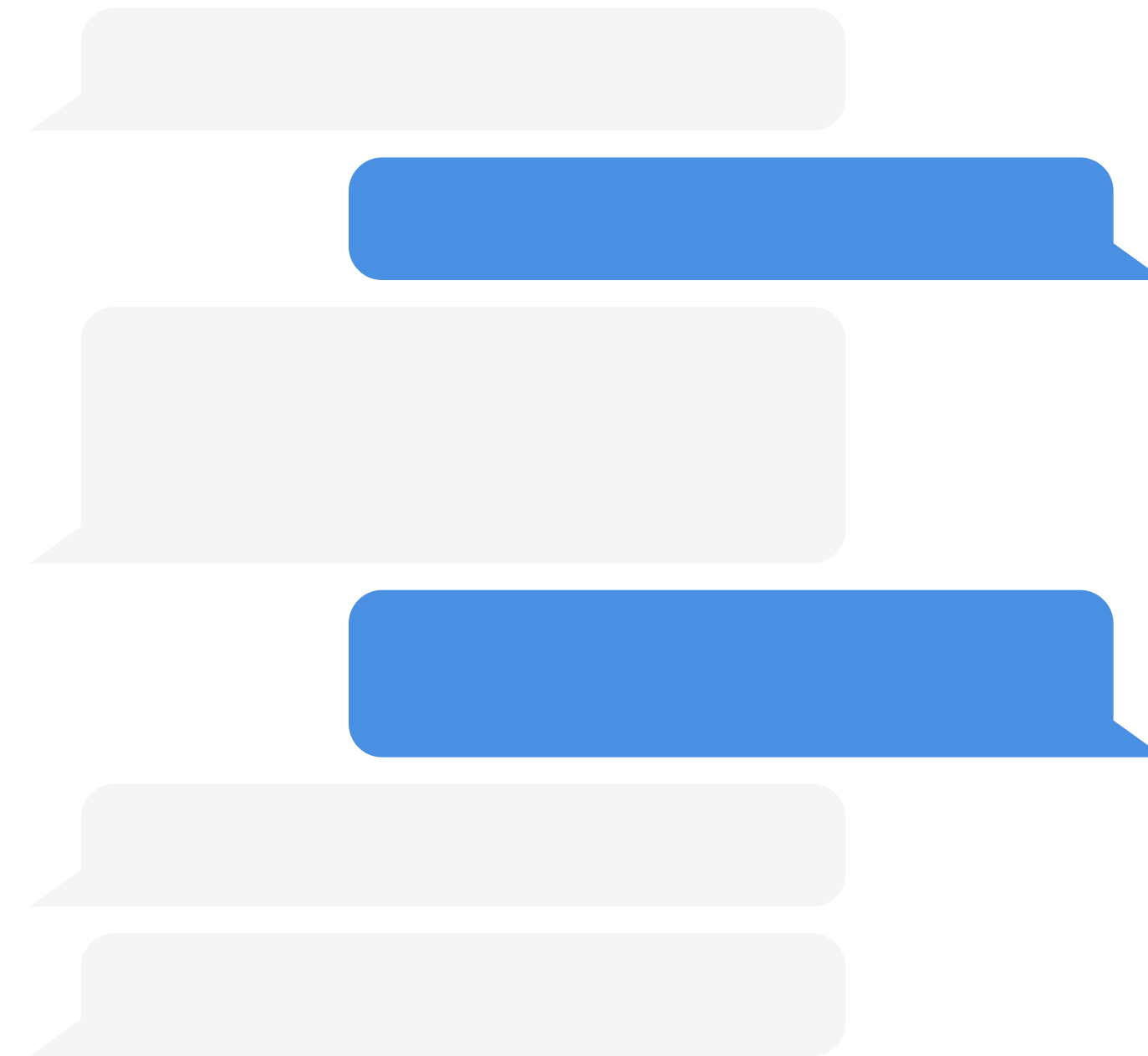
The Study

Structure

Preliminary Interviews

Secondary Interviews
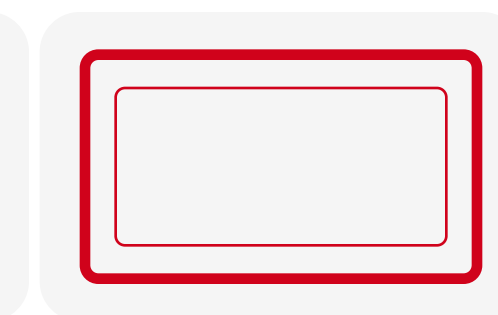
Format

Semistructured Interviews
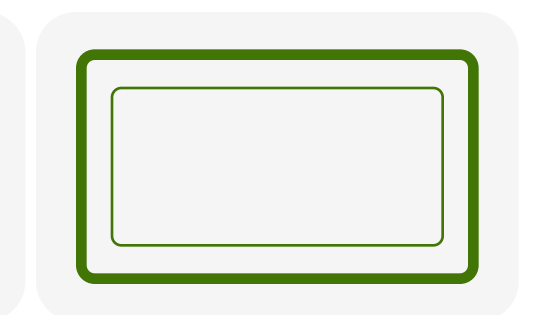
Findings

Boiling   Simmering
Roasting   Frying
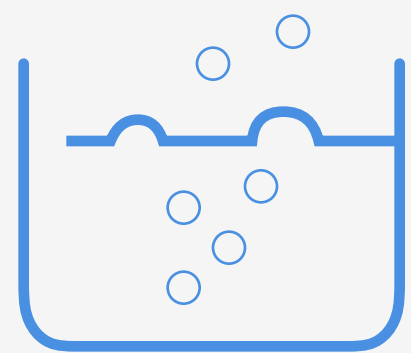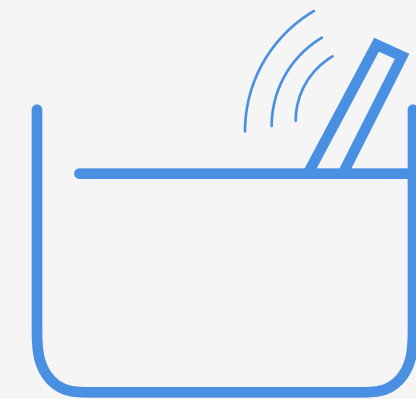
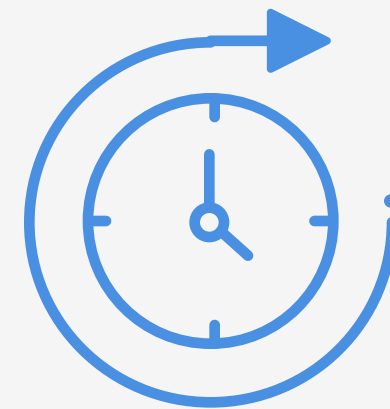Behaviours   Problems   Strategies

Findings

Boiling

Listens for bubbling of water
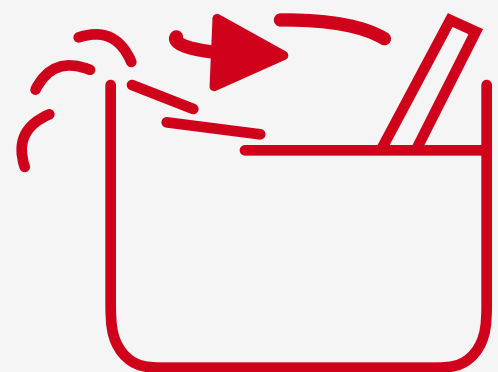
Prod food to check if it is soft

Temporal estimations through experience

Navigating without burning one's hand

Estimating quantities of liquids

100ml

Preventing spillage when stirring

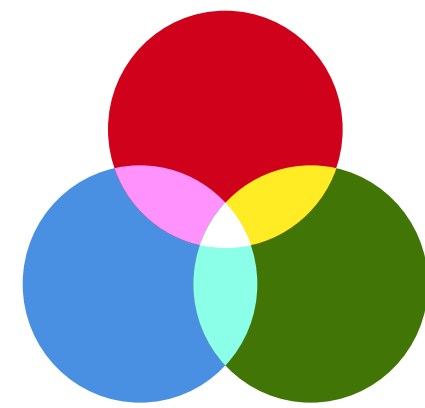**Gain more experience using the boiling technique**

Develop an understanding of the smell of spices

Take a small bite

Findings
Simmering

Change in colour of the food is the prime indicator of preparedness
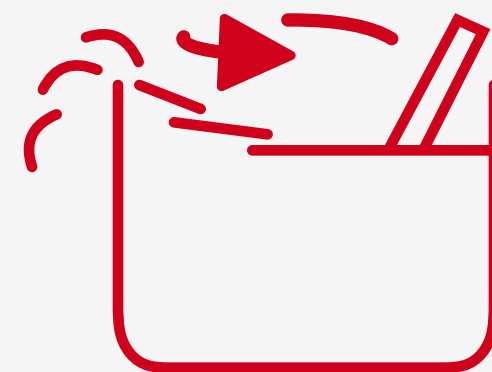
Estimate through auditory and olfactory chamges
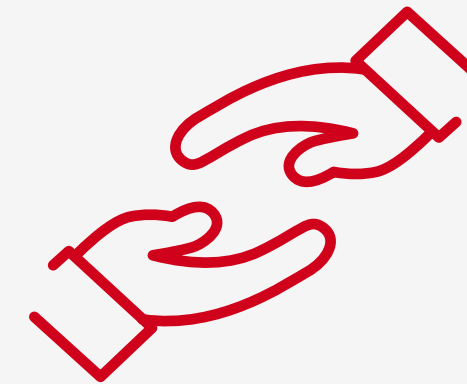
Temporal estimations through experience

Navigating without burning one's hand

Estimating quantities of liquids

100ml

Preventing spillage when stirring

Forced to rely on sighted individuals in most situations

Look out for specific smells and sounds gained through experience

Findings

Roasting

Generally only help with preparatory activities
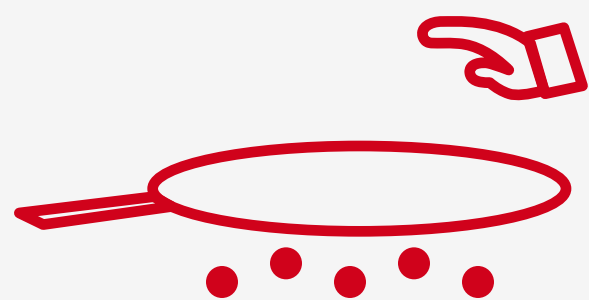
Locating the centre of the pan
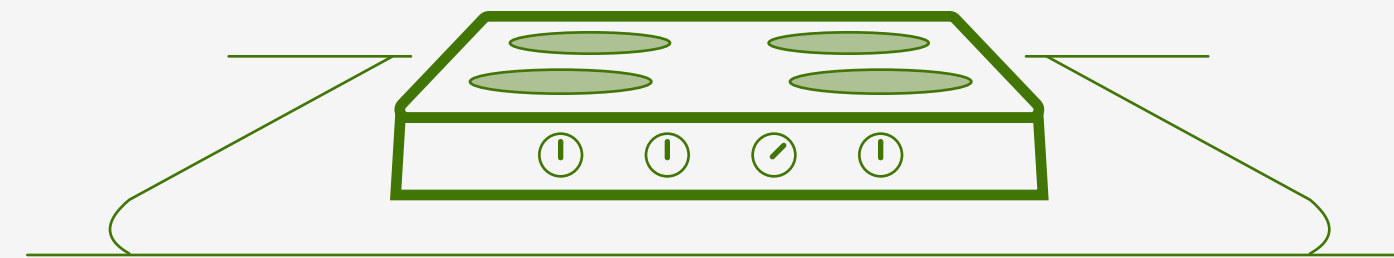
Picking & flipping the food back onto the pan

Time sensitive technique

Roasting multiple foods at the same time

Intimate handling can burn one's hand

Using elements of the environment to maintain orientation
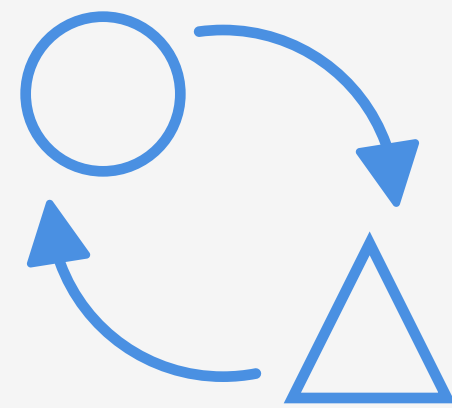
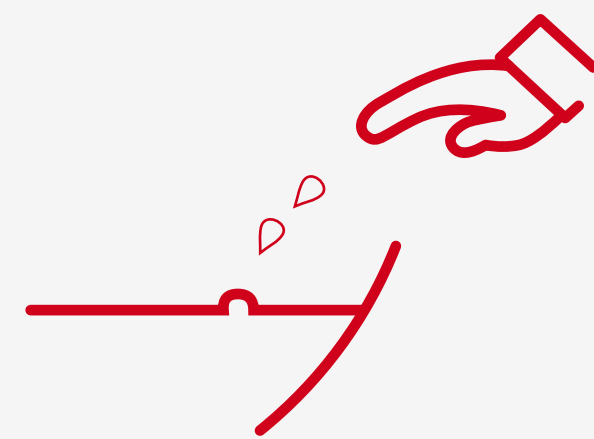**Estimating preparedness through smell and texture**

Using an auxilary utensil to handle the hot food

Findings

Frying

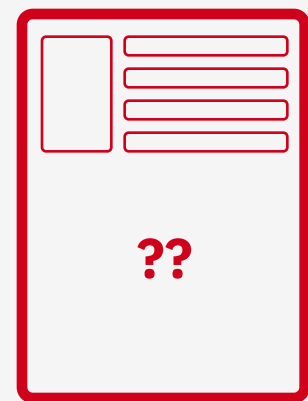Prefer to find alternative foods rather than risk frying

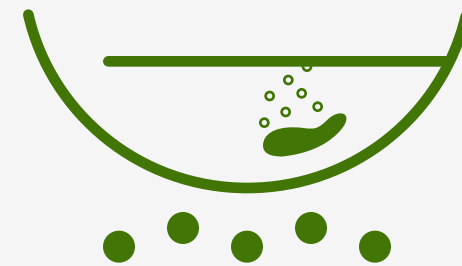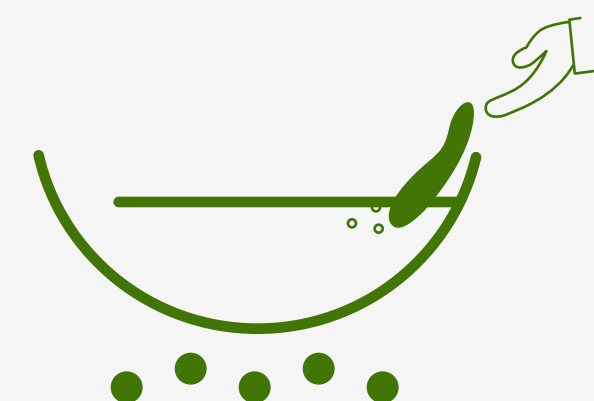Unable to engage reflexes to avoid oil splashback

Time sensitive technique

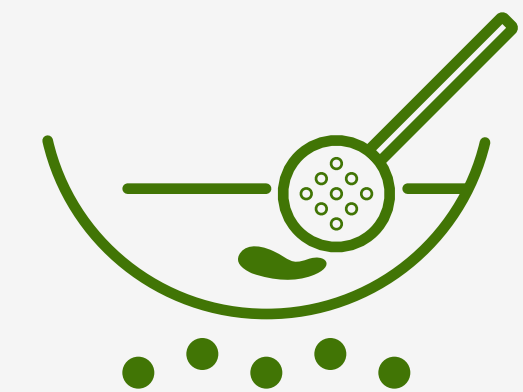Preventing and cleaning sticky oil spillage

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Seldom used technique lends to lack of distinct behaviours and strategies

Frying foods one at a time
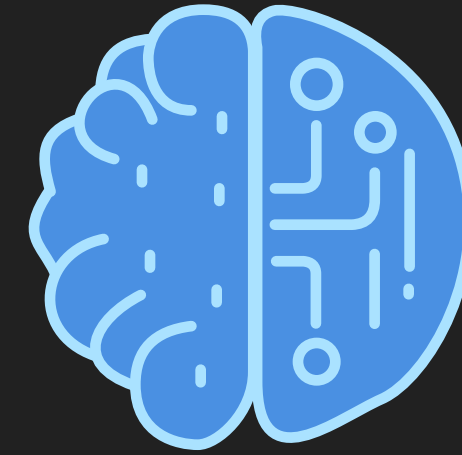
Frying large foods like papads that are easier to handle

Prod with handle to check for texture

Design Implications

Ensuring user safety is key to reducing hesitancy and allows for tasks to be performed confidently and independently

Reducing cognitive load will allow VIPs to focus better on the technique they are performing

Designing for low purchase and maintenance costs

Increase Adopt-ability through increased awareness of Assistive Technologies

Include more failsafes to prevent injury

Integration of the assistive device into the user's daily context to maintain or increase familiarity

Conclusion

More in-depth study of the cooking techniques, various contexts and user environments before designing and developing products

Lack of work in the area gives scope for novel designs to have large impact

Thank you