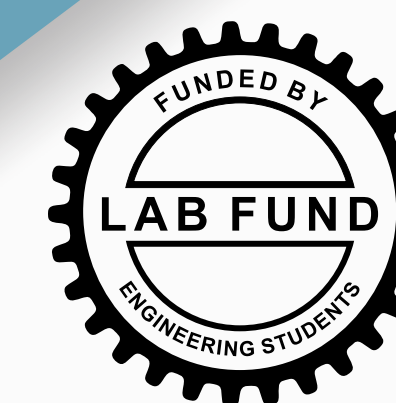


DETERMINING THE PRESENCE OF PEANUT ALLERGEN USING ULTRAVIOLET VISIBLE SPECTROSCOPY

Eden D'souza • Eleanor Gaynor • Emily Helmer • Emilie Potts



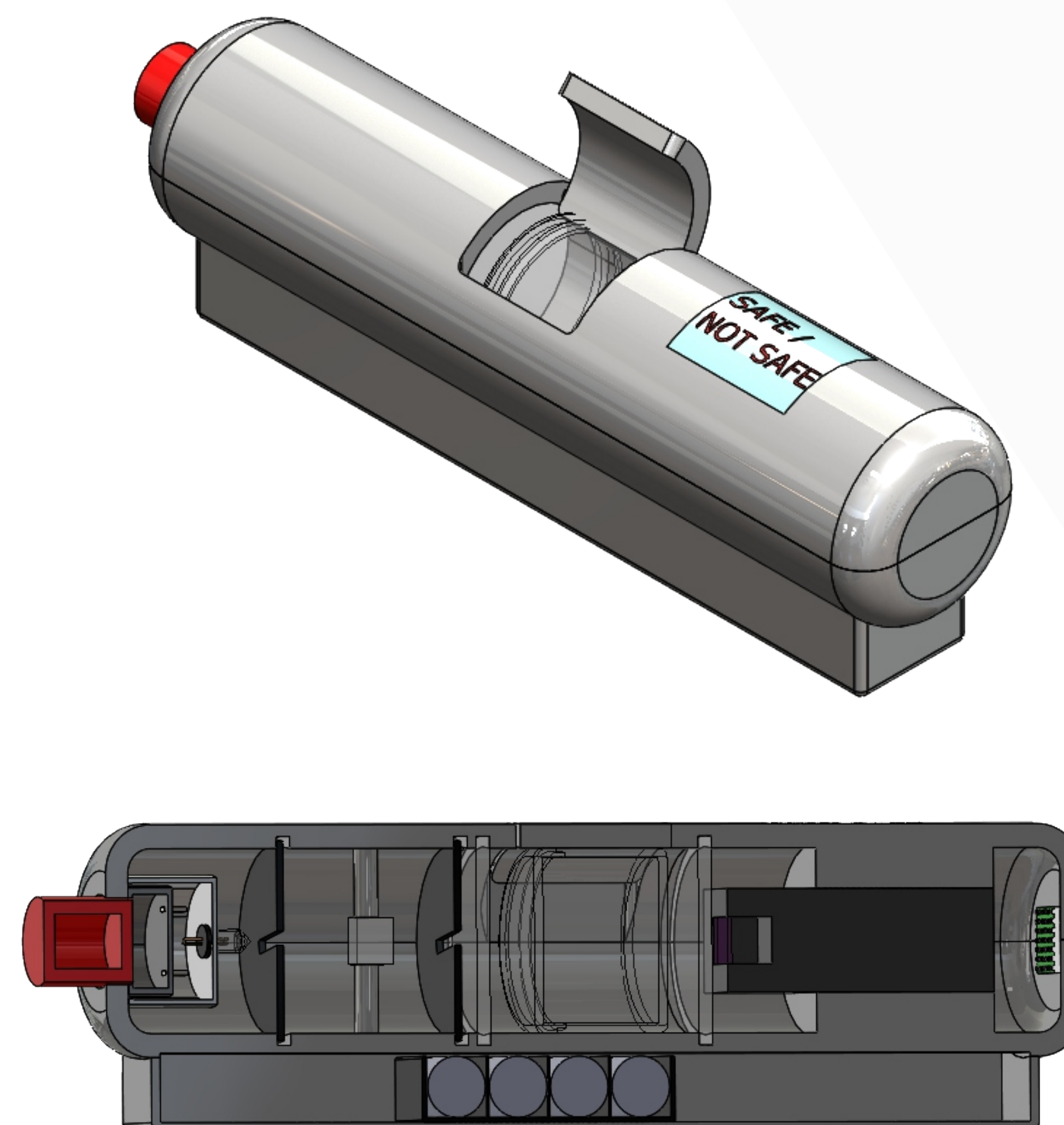
Problem Statement

Food allergies play a significant role in an individual's life

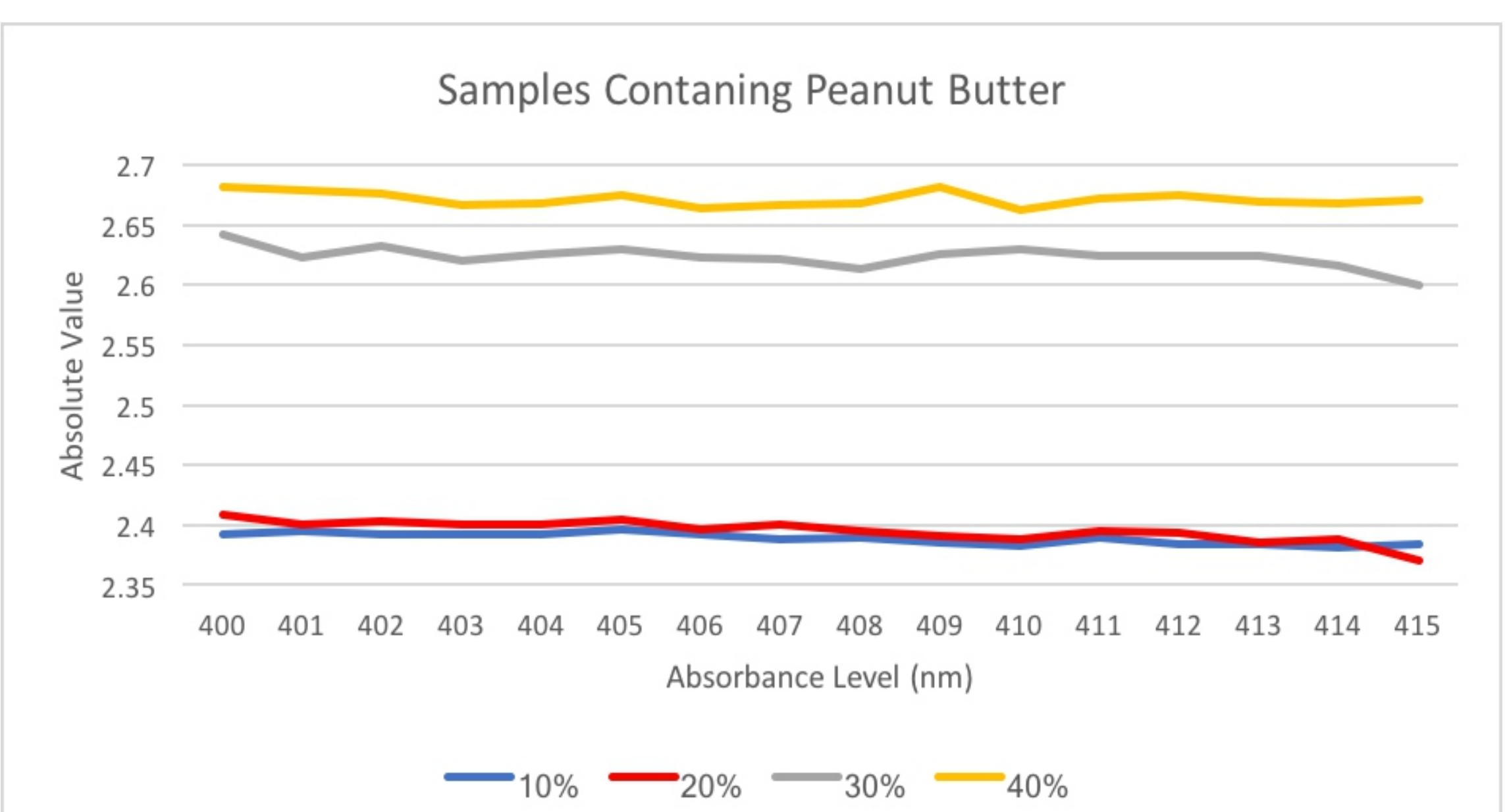
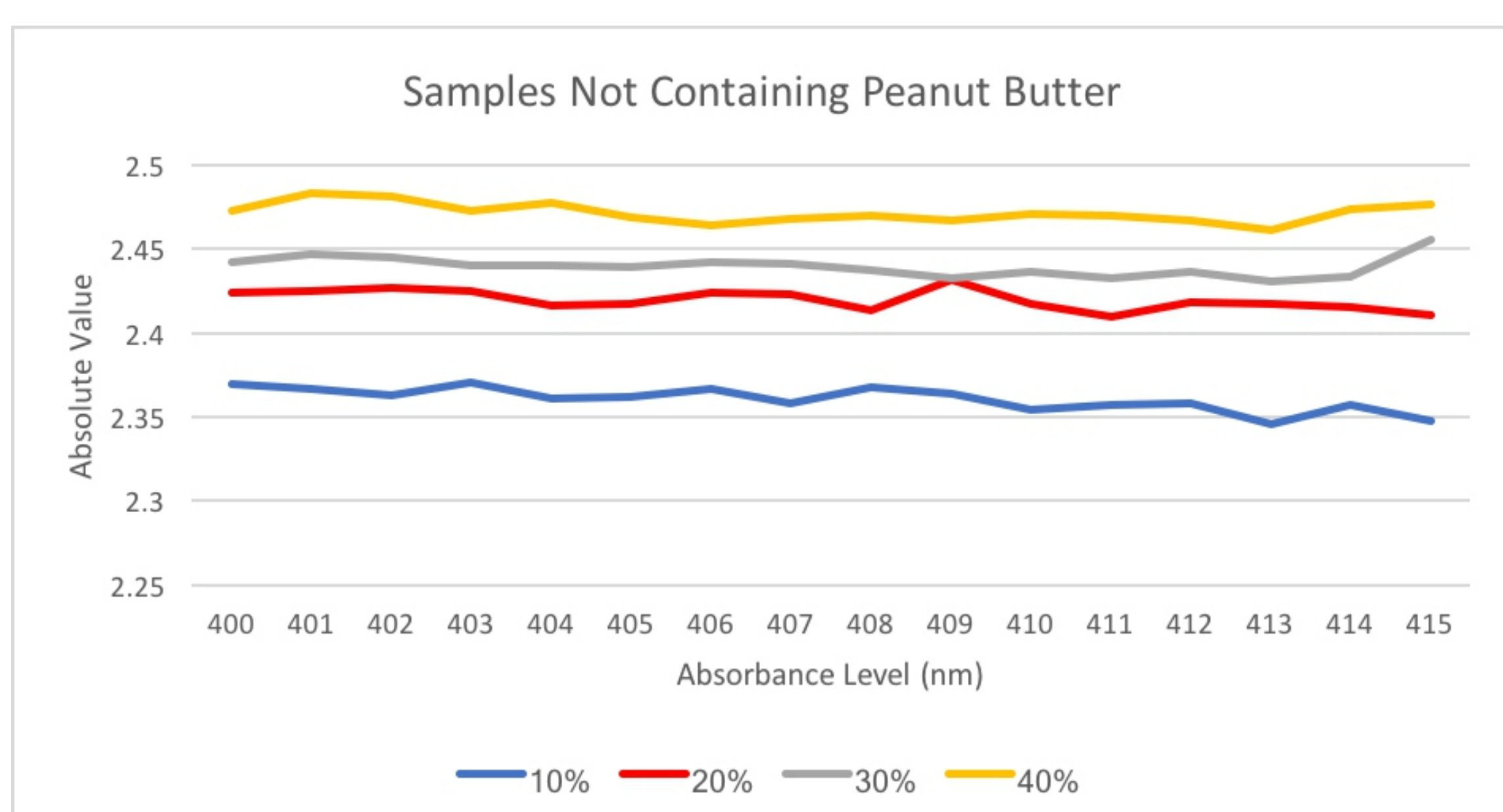
The device will be able to tell the user if the food contains peanuts

Utilizing UV Vis technology to detect if peanuts are present in food

Final Design



UV Vis Results

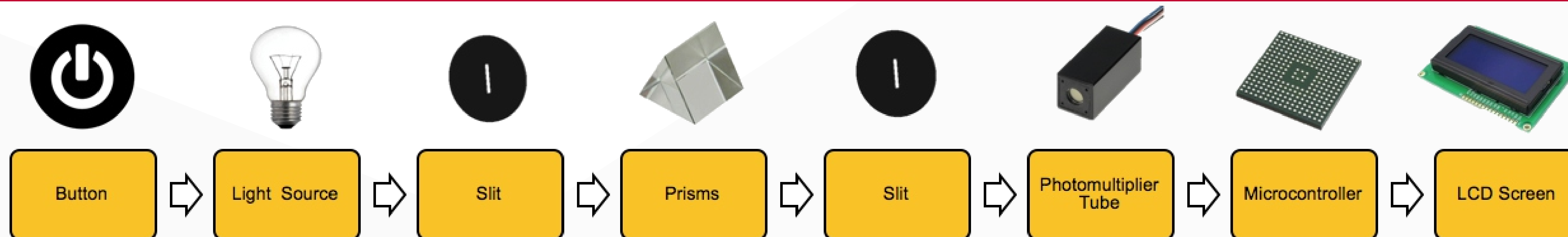


Constraints & Criteria

Constraints	Justification
Portable	<ul style="list-style-type: none"> Can be easily transported and used anywhere (schools, restaurants, etc.)
Reusable	<ul style="list-style-type: none"> Lower environmental impact Economically justifiable for consumer
Safe	<ul style="list-style-type: none"> Must not cause harm to the user No sharp edges
Durable	<ul style="list-style-type: none"> Must withstand being handled roughly/dropped/stepped on
Accurate	<ul style="list-style-type: none"> Must not give false negatives or false positives
Medical Device Standards	<ul style="list-style-type: none"> IEC 62366, ISO 14971, ISO 10993

Criteria	Justification
Easy to use	<ul style="list-style-type: none"> Any child should be able to remember how to use the device
Easy to clean	<ul style="list-style-type: none"> Avoid cross-contamination of food samples
Safety	<ul style="list-style-type: none"> As safe as possible so no one is put in danger during usage
Durability	<ul style="list-style-type: none"> Withstand being handled roughly/dropped/stepped on Long life time

Testing Process



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ENGINEERING

