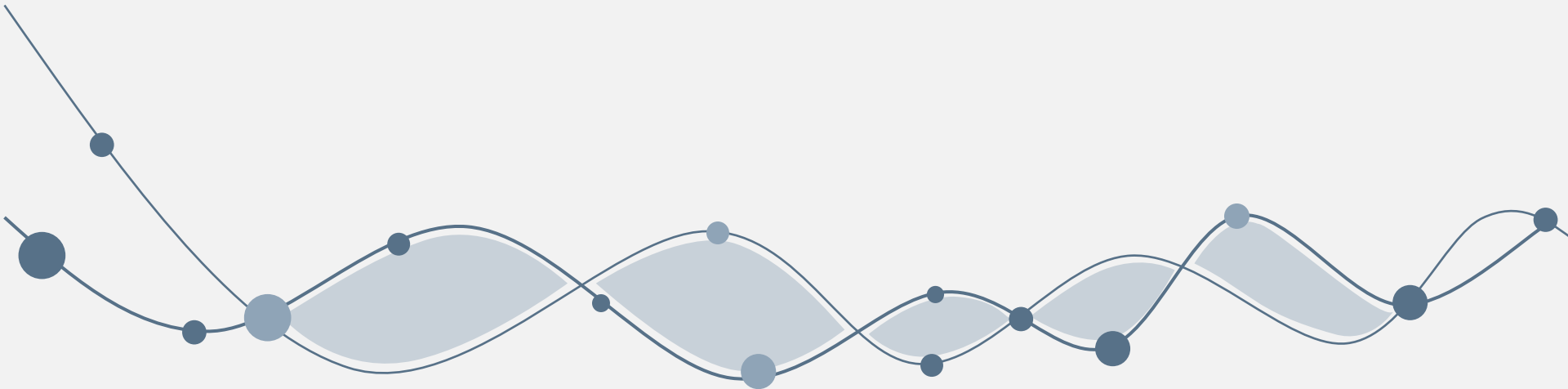
University of Nottingham
UK | CHINA | MALAYSIA

# Create a browser extension that provide end-to-end support for online shopping



University of Nottingham
UK | CHINA | MALAYSIA

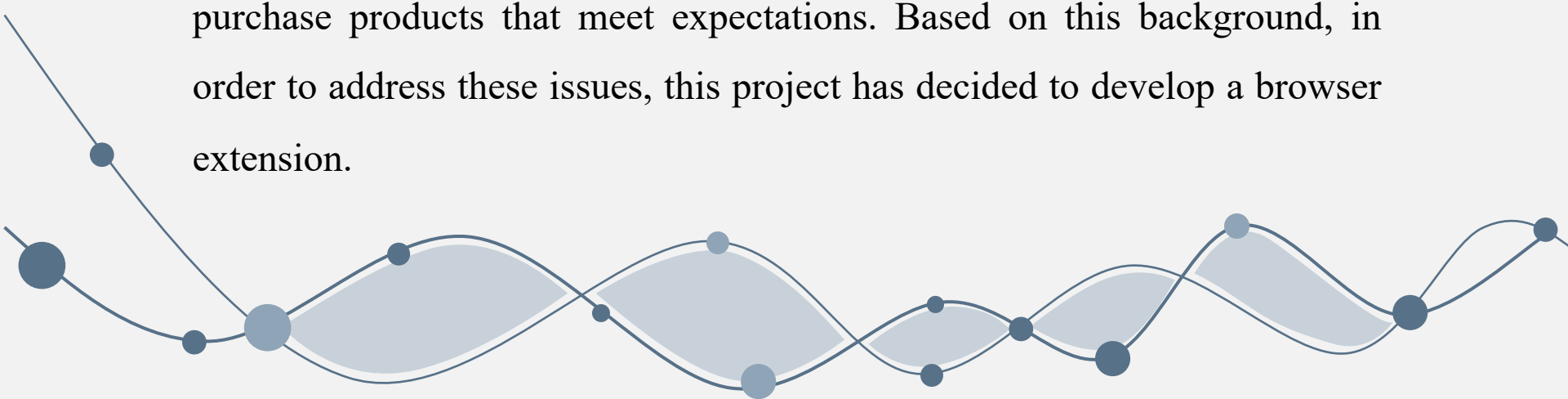
# Content

PART 01

# Introduction

University of Nottingham
UK | CHINA | MALAYSIA

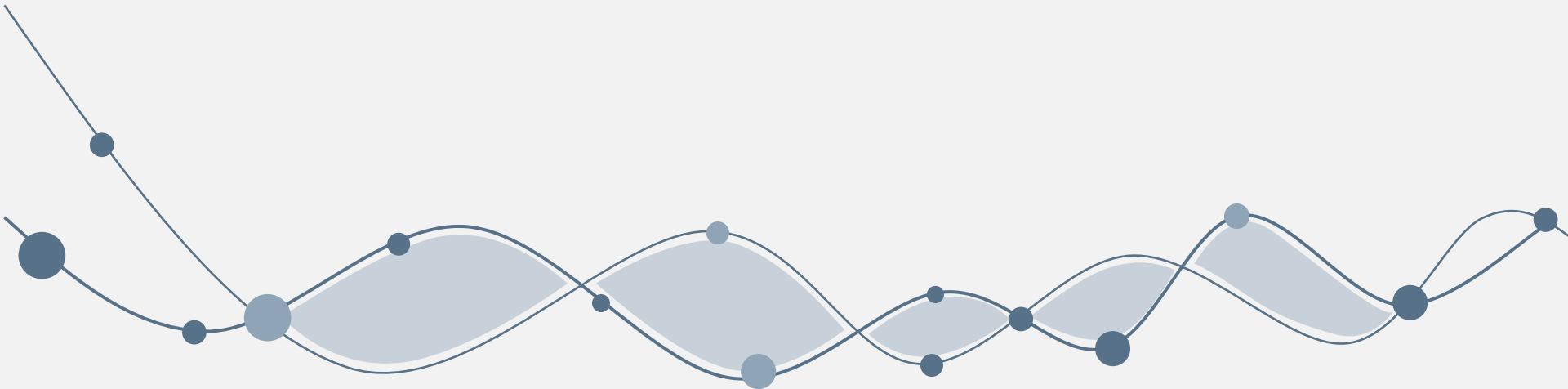
There has been an unprecedented boom in the field of e-commerce, becoming an important component of contemporary consumerism. However, as the field of online purchasing expands, buyers are encountering more and more problems. For example, how to efficiently purchase products that meet expectations. Based on this background, in order to address these issues, this project has decided to develop a browser extension.



University of Nottingham
UK | CHINA | MALAYSIA

PART
02

# User Description



PART
02

# Target user

- **Budget-Conscious Shoppers:**

Users who are budget-conscious and actively look for ways to save money while shopping online. They are interested in using price comparison features and finding coupons and promo codes to get the best possible prices.

- **Frequent Online Shoppers:**

Users who prefer the convenience of online shopping over physical stores and make regular purchases through e-commerce platforms.

- **Impulse Buyers:**

Users who enjoy discovering new products and sometimes make impulsive purchases. They might benefit from personalized product recommendations offered by the extension.

- **Consumers who are very concerned about information security:**

Usually, they will give priority to their own information security risks when shopping, and they may hope that the extension program can protect their personal information to a certain extent, respect their personal privacy, and not excessively collect personal data information.

PART 02

# User requirements

University of Nottingham
UK | CHINA | MALAYSIA

- **The coupons and coupon code search.**

Users expect the extension to help them find coupons or promo codes related to their current purchase, so as to save the most time and provide better purchase suggestions.

- **Personalized recommendations for different user groups.**

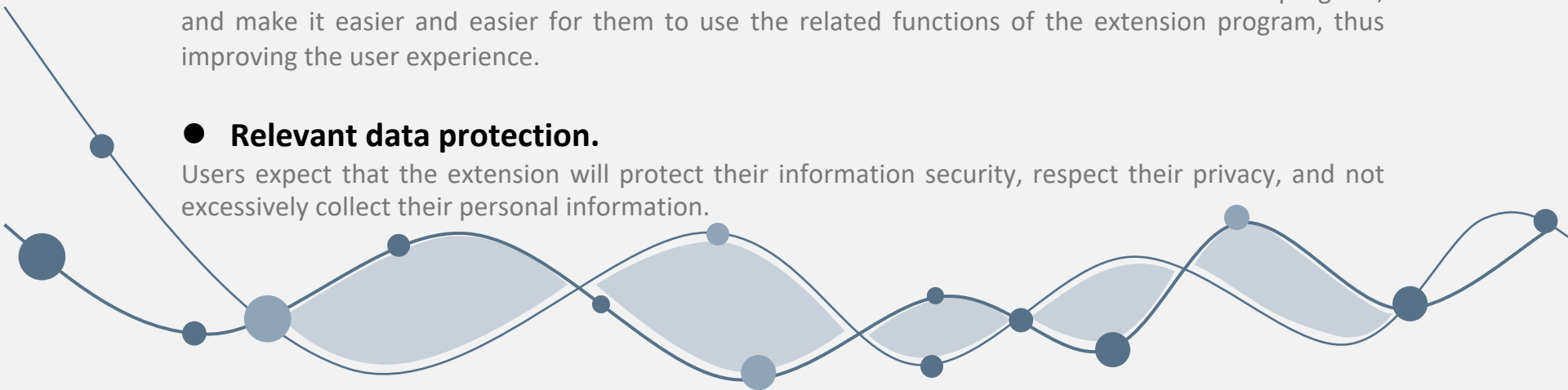
Users hope that the extension program can recommend relevant products that meet their expectations according to their different needs. So as to give users better purchase suggestions.

- **Project front-end interface is beautiful.**

Users think that the beautiful front-end interface can better attract them to use the extension program, and make it easier and easier for them to use the related functions of the extension program, thus improving the user experience.

- **Relevant data protection.**

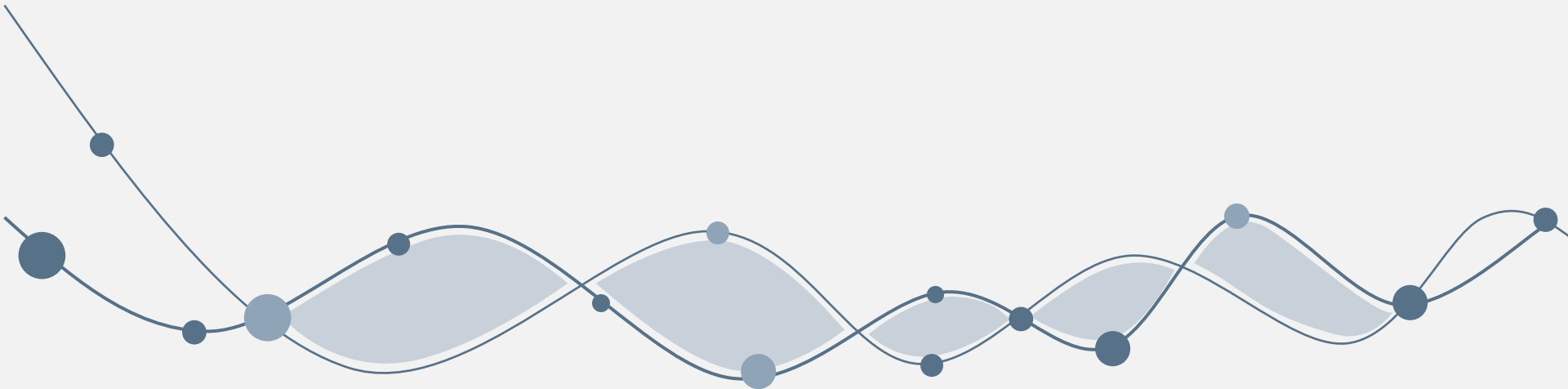
Users expect that the extension will protect their information security, respect their privacy, and not excessively collect their personal information.



University of Nottingham
UK | CHINA | MALAYSIA

PART
03

# Methodology



PART 03

# Methodology

University of Nottingham
UK | CHINA | MALAYSIA

- **Data Collection**

A web crawler. The data collection for this project involves retrieving the log information of the user. The present assortment exclusively compiles the user's historical log data pertaining to their interactions with the Amazon camera search page, encompassing the URL address and the timestamp of each browsing session.

- **Data Storage**

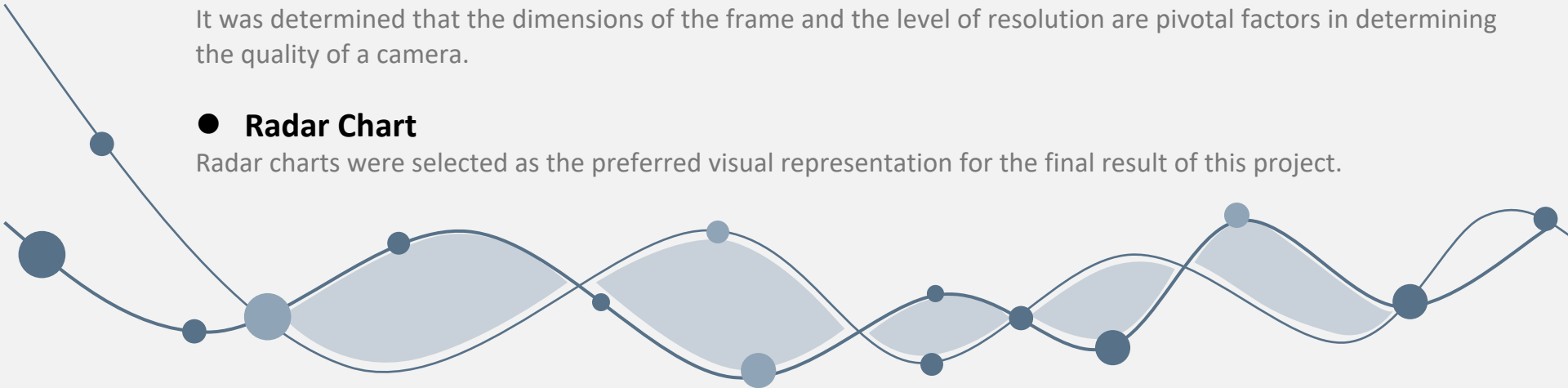
The study project has opted for the utilization of the local file storage approach. The data is stored in the JSON format.

- **Data Understanding**

It was determined that the dimensions of the frame and the level of resolution are pivotal factors in determining the quality of a camera.

- **Radar Chart**

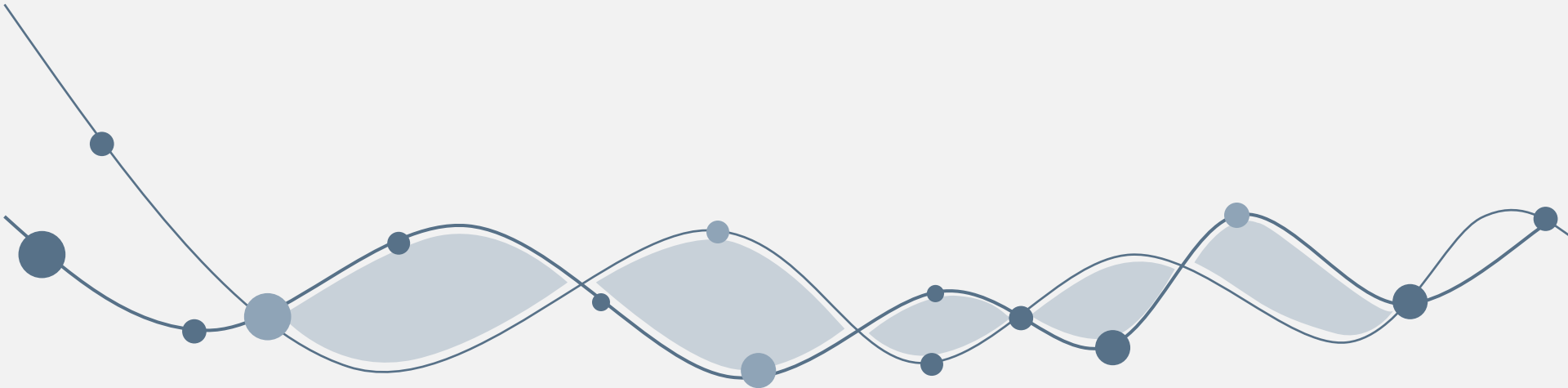
Radar charts were selected as the preferred visual representation for the final result of this project.



University of Nottingham
UK | CHINA | MALAYSIA

PART
04

# Design

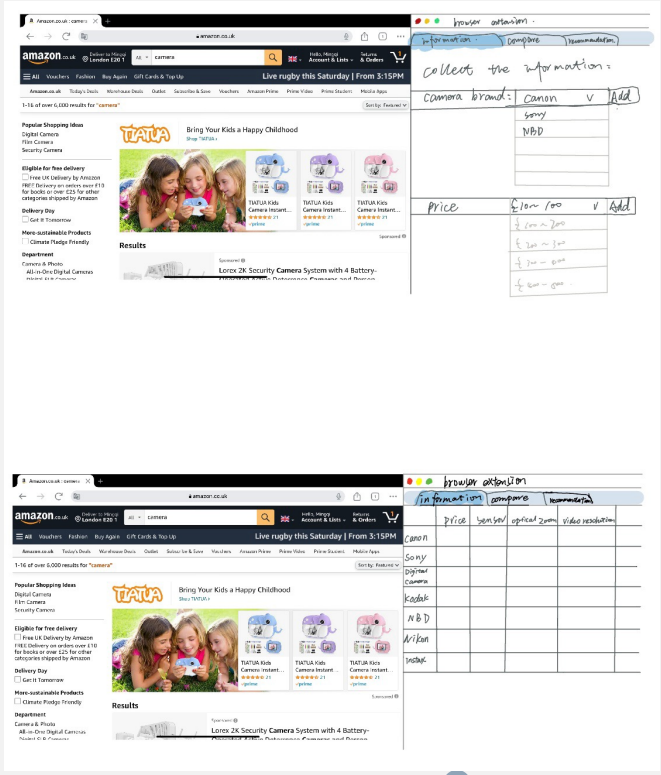


PART 04

# Design

University of Nottingham
UK | CHINA | MALAYSIA

## Early preset :

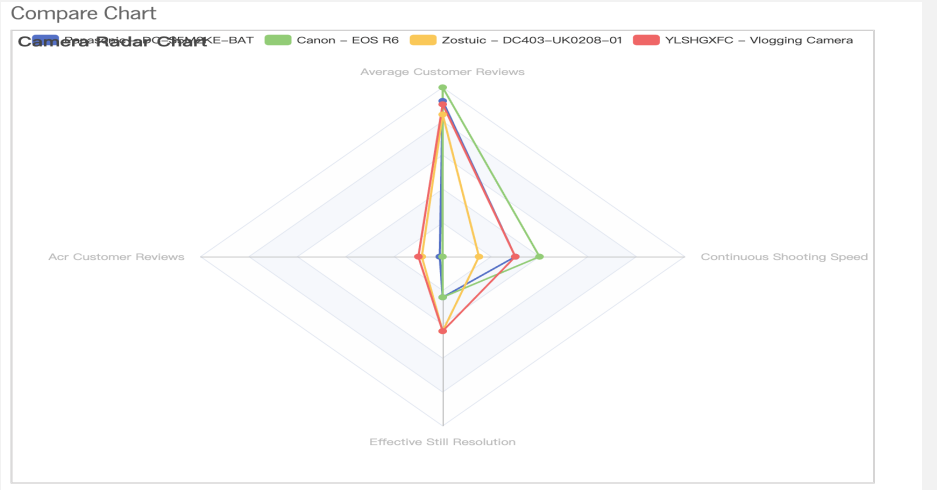


University of Nottingham
UK | CHINA | MALAYSIA

# Final Design


| brand | model_name | url |
|---|---|---|
| Panasonic | DC-S5M2KE-BAT | https://www.amazon.co.uk/Panasonic-Mirrorless-Unlimited-Recording-DMW-BLK22/dp/B0BSNSQBJ9/ref=sr_1_1_sspa?crid=XUB08KS9ZF2E&keywords=camera&qid=1694007624&sprefix=camera%2Caps%2C198&sr=8-1-spons&ufe=app_do%3Aamzn1.fos.cc223b57-2b86-485c-a85e-6431c1f06c86&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&psc=1 |
| Canon | EOS R6 | https://www.amazon.co.uk/Canon-Mark-II-Mirrorless-24-2-megapixels/dp/B0BT4Z94RY/ref=sr_1_4?crid=XUB08KS9ZF2E&keywords=camera&qid=1694007624&sprefix=camera%2Caps%2C198&sr=8-4 |
| Zostuic | DC403-UK0208-01 | https://www.amazon.co.uk/Vlogging-Rechargeable-Students-Children-Beginners/dp/B0BV6FPNY1/ref=sr_1_3?crid=XUB08KS9ZF2E&keywords=camera&qid=1694007624&sprefix=camera%2Caps%2C198&sr=8-3 |
| YLSHGXFC | Vlogging Camera | https://www.amazon.co.uk/Digital-Rechargeable-Vlogging-Teenagers-Beginners%EF%BC%88Black%EF%BC%89/dp/B0BYD8541M/ref=sr_1_2_sspa?crid=XUB08KS9ZF2E&keywords=camera&qid=1694007624&sprefix=camera%2Caps%2C198&sr=8-2-spons&sp_csd=d2lkZ2V0TmFtZT1zcF9hdGY&psc=1 |

Information collection interface

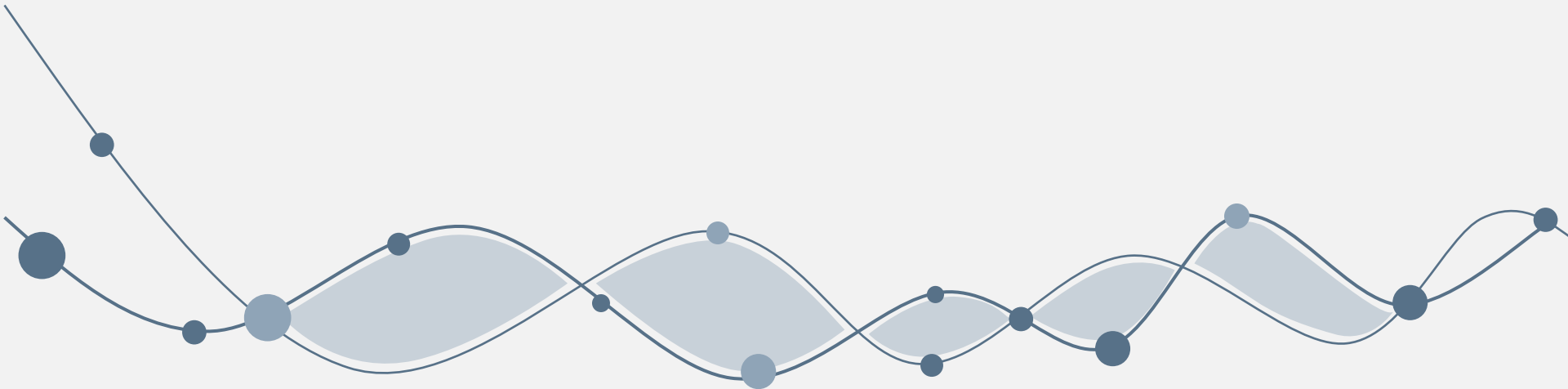



Data analyze interface

University of Nottingham
UK | CHINA | MALAYSIA

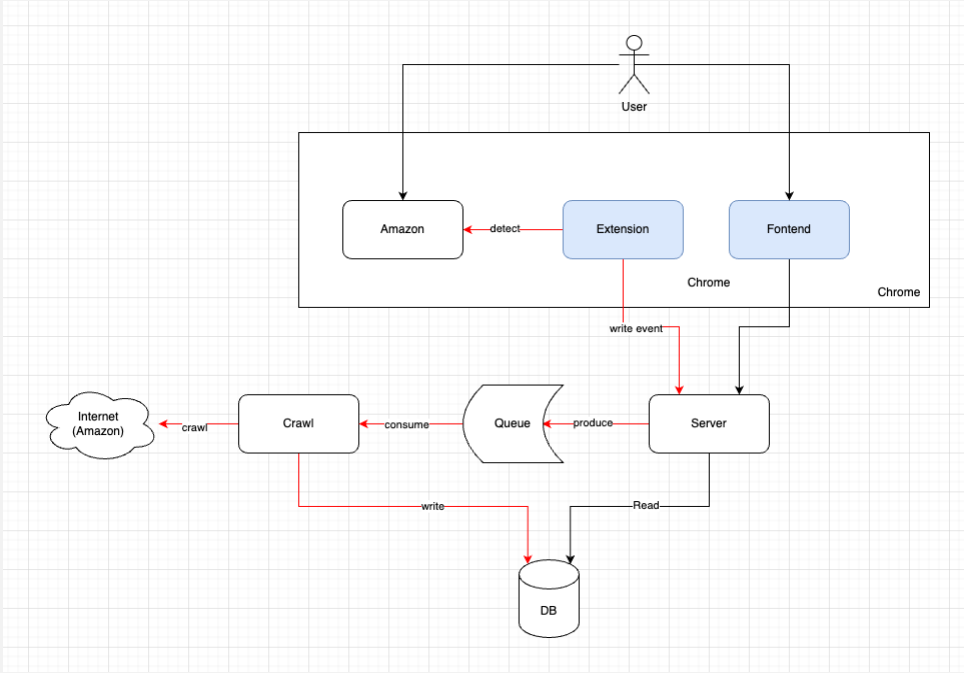
PART
05

# Implementation



University of Nottingham
UK | CHINA | MALAYSIA

# Basic architecture



PART 05

# Implementation

University of Nottingham
UK | CHINA | MALAYSIA

- **Data collection**

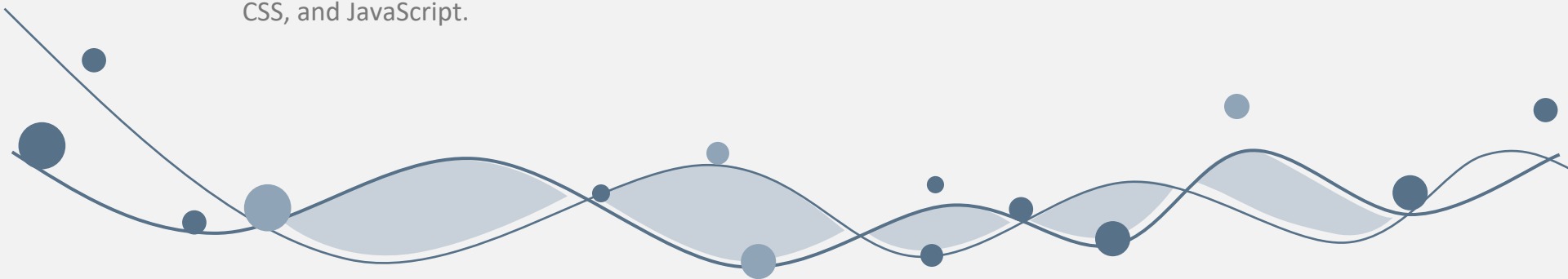
  The main data source is page information from Amazon Consumers participating in camera searches. To simplify the data collection process. The design of buttons related to user input data has been replaced by a function. Automatically retrieve information from the active browsing page.

- **Data Storage and Interaction**

  The database chosen for this project is based on the utilization of sqlite3.
  In terms of front-end interaction, the team made the decision to utilize the bower package management.

- **Configuration of the User Interface**

  In relation to the front-end design of this project, the selected programming languages include HTML, CSS, and JavaScript.



PART 05

# Implementation

University of Nottingham
UK | CHINA | MALAYSIA

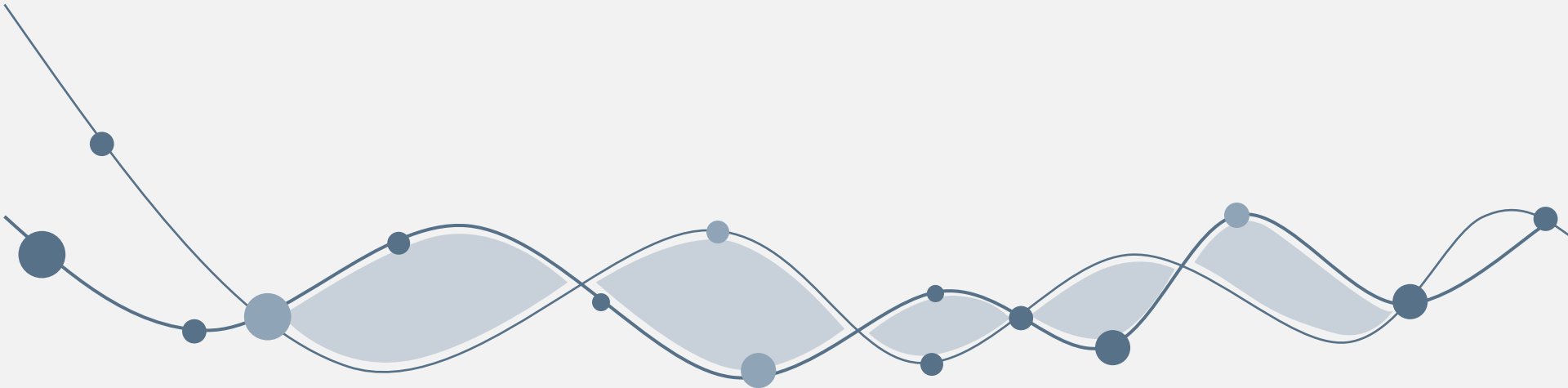
## The establishment of the backend system

The backend of this extension application is implemented using the Python programming language, with the Flask framework being selected as the service framework.

University of Nottingham
UK | CHINA | MALAYSIA

PART
06

# Summary



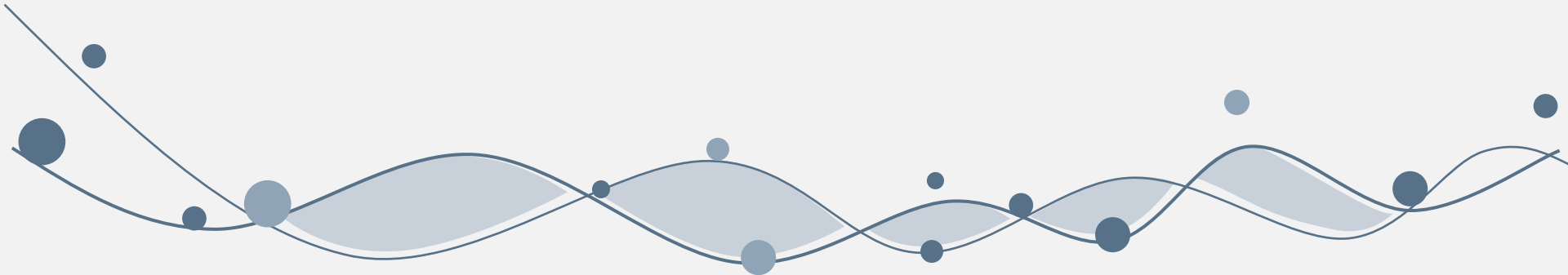
PART 06

# Summary

University of Nottingham
UK | CHINA | MALAYSIA

The project's originality is centred on the implementation of automated user data collecting and the utilization of radar charts. The automated gathering of user data significantly decreases the duration of data collection for users to compare categories, hence enhancing the user's utilization and purchasing experience to a certain degree.

The findings of this study demonstrate that while there exists a current capability to autonomously retrieve user browsing data from the Amazon Camera webpage, there is considerable potential for enhancement.In subsequent iterations, there is potential for enhancing the project.



University of Nottingham
UK | CHINA | MALAYSIA

# Thanks for watching!