

June – 2022

Golden ager technology support

Group 1

Avinesh, Kartik Keung, Hoi Lam Tong, Yisi
Phadtare, Anand Sakiyeva, Guldana



TABLE OF CONTENTS



01

Problem Statement

02

User Persona

03

Customer Journey

04

Product concepts

05

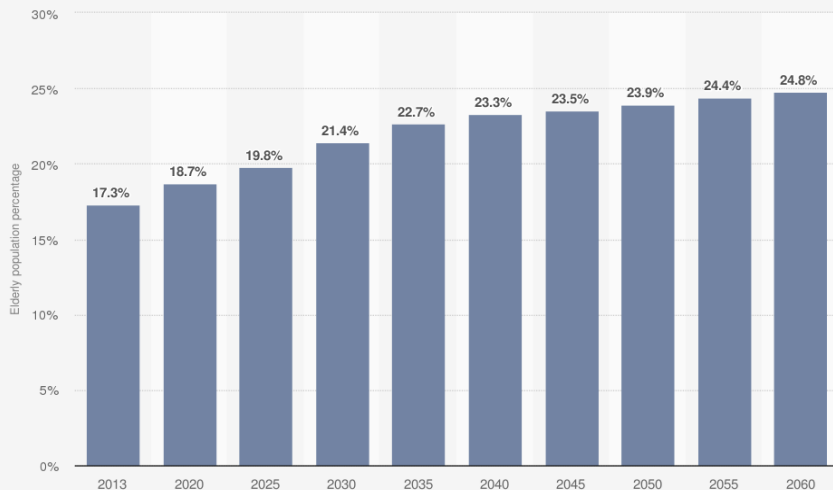
Evaluation process

06

Product features/Data ethics

PROBLEM STATEMENT

Elderly population (65 and over) as a percentage of the total population in the United Kingdom (UK) from 2013 to 2060



The UK's population is ageing and, one in four people in the UK will be aged 65 or over **by 2050**.

However, their needs are ignored by the market, and it would help them to live and work independently if products were designed specifically for them to assist.

The three main areas of the support equipment are muscle, mobility, and cognition.

Source: European Commission



User Persona

Demographics and personal background:

Retired

Divorced

Living alone

Personalities:

Outgoing

Social

Organized

Goals:

improve lifestyle

do shopping faster

Challenges: Recognize close people Cross the road safely

— John Baiden, 65

Health Issues:



weak eye sight



dementia

Activities: shopping, walking in the park, reading newspapers



Demographics and personal background:

Lives in
carehouse

Widow

Has 2 sons

Personalities:

Kind

Caring

Curious

Goals:

live independently

restore an active lifestyle

Challenges: Walking limitations Fear of falling down

— Merry Silver, 70

Health Issues:



Muscle loss



She fell down one time, after
which she uses walking stick and
needs assistance

Activities:

used to love gardening, watches favorite TV shows,
meeting with family members during the holidays



Demographics and personal background:

Divorced

Retired
farmer

Has 3 kids

Personalities:

Patient

Determined

Easy-going

Goals:

Walk independently

Participate in social events

Challenges: Difficulty with leaving the house Can't cook for herself

— Ka Lai Wong, 80

Health Issues:



Arthritis



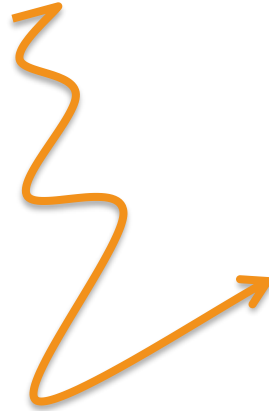
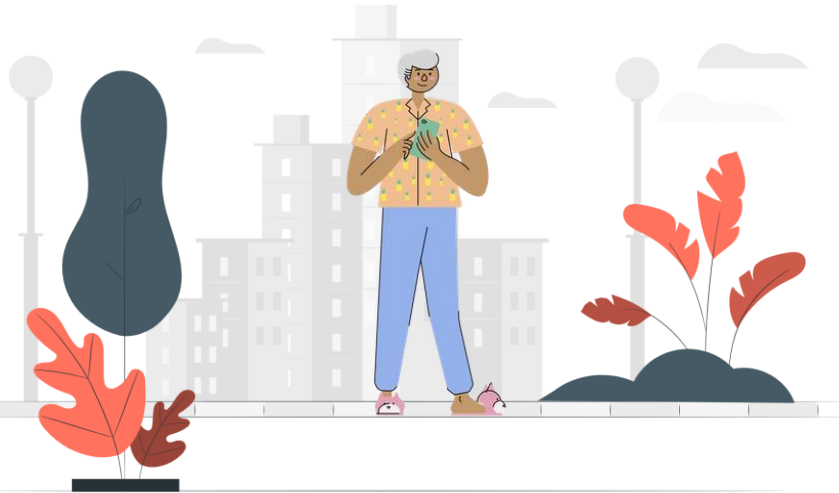
Problems in standing
upright

Activities:

Likes visiting her grandchildren, listening to music,
goes to Church every Sunday

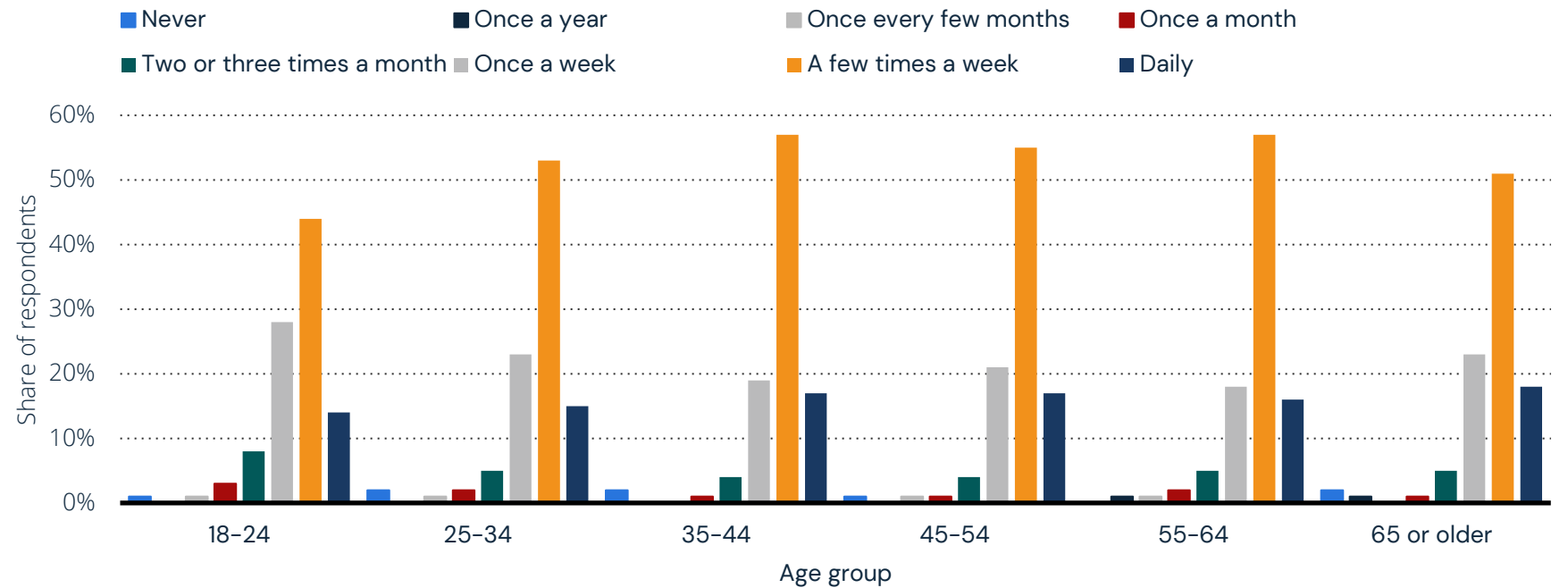


CUSTOMER JOURNEY



On average, how frequently do you go shopping for food items in a store or supermarket?

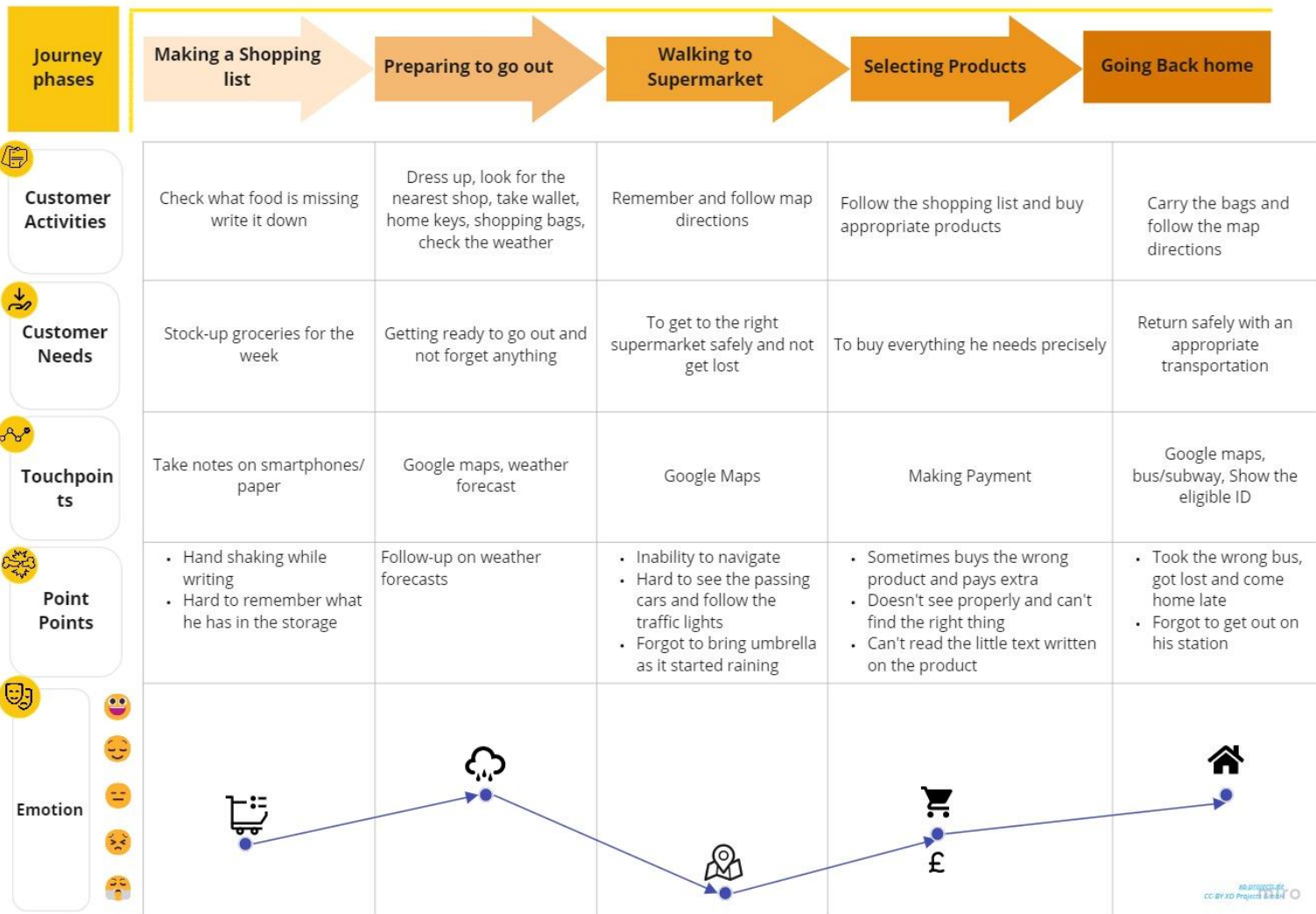
Frequency of food shopping trips to stores in the UK in 2019/2020, by age group



Note(s): United Kingdom; December 2019 to June 2020; 18 years and older; 22422 respondents

Further information regarding this statistic can be found on [page 8](#).

Source(s): dunnhumby Beyond; ID 1125722



Product concepts

Smart glasses



Help elderly who
trouble from
cognitive and
eyesight problem

Smart Home



House host assistance
and Emergency
Response Systems

Healthcare exoskeletons



Exoskeletons which
endow the elderly
with strength and
endurance

Concept Evaluation

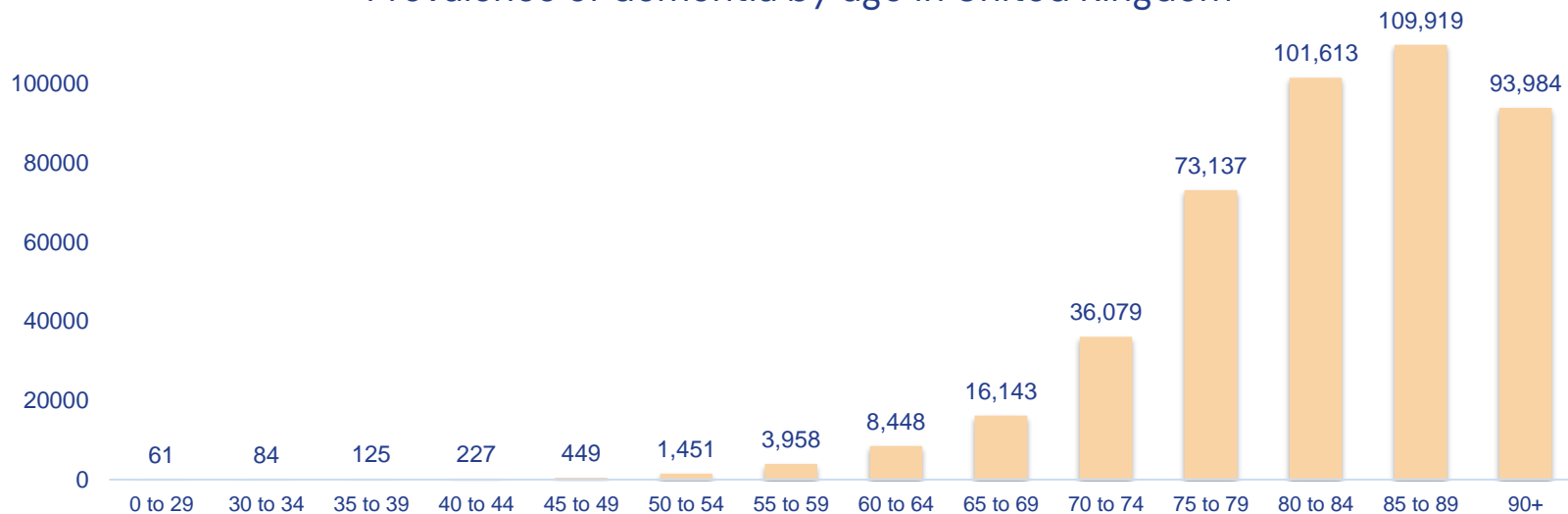
	CONCEPT VARIANTS		
SELECTION CRITERIA	Smart Glasses	Smart Home	Healthcare exoskeletons
Muscle strength	0	0	+
Mobility	+	0	+
Cognition	+	+	0
Convenience	+	+	+
Inexpensive	+	-	+
Repairable	+	+	-
Multi-function	+	+	0
Upgradeable	+	+	0
Data risk	-	-	0
PLUSES	7	5	4
SAMES	1	2	3
MINUSES	1	2	1
NET	6	3	3
RANK	1	2	2
CONTINUE?	Yes	No	No

After comparing three ideas in multiple dimensions smart glasses are the most valuable.



DATA ANALYSIS

Prevalence of dementia by age in United Kingdom



96.6%

Dementia

People aged 65+

50%

Elderly

80-89 Years of Age suffer from Dementia

1,521,000

Expected number of people
with dementia in the UK by
2055

DATA ANALYSIS

59%

Eye-sight Problem

People aged 75+

83%

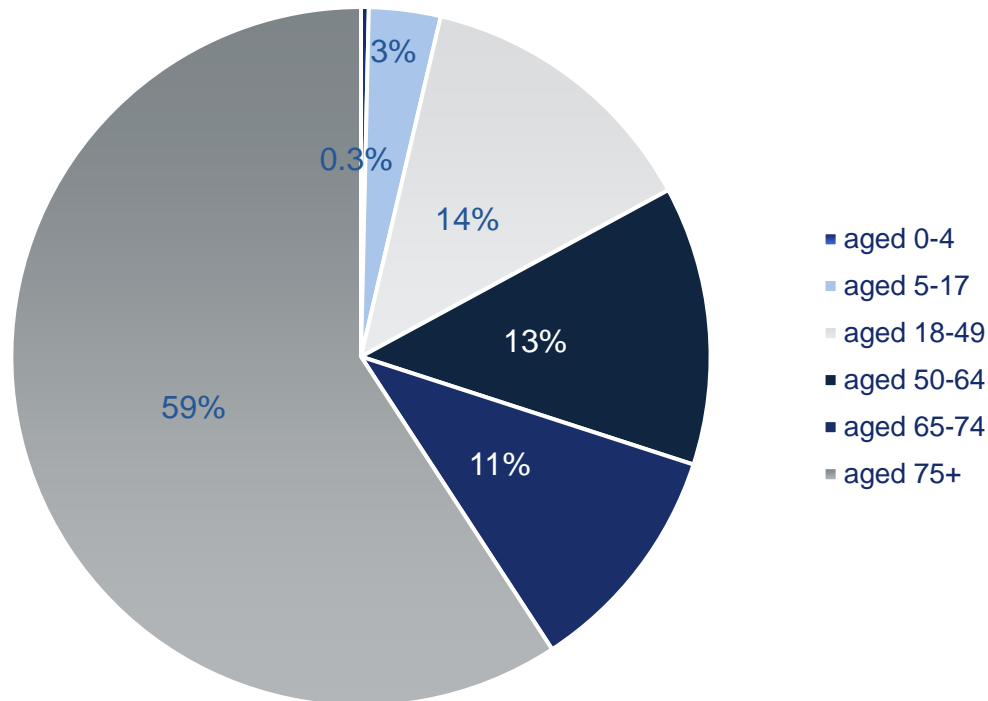
Elderly

50+ Years of Age suffer from Eye-sight problems

22%

Increase in number of people
with sight loss by 2030

Total registered blind or partially sighted by age in United Kingdom



Source: RNIB

DESIGN PROCESS

Product Features



Key Features



- Auto generate shopping list



- Voice assistance help
Check the weather before going out
- Reminder – remind to bring necessity out/ take medicine



- Recognizing familiar faces
- Reading facial expressions
- GPS and build-in Map with voice and ER navigation



- Word scan and read
- Stock alert (avoid repeat purchase)
- Shopping suggestions (base on purchase history and owner health)
- Auto calculate payment amount

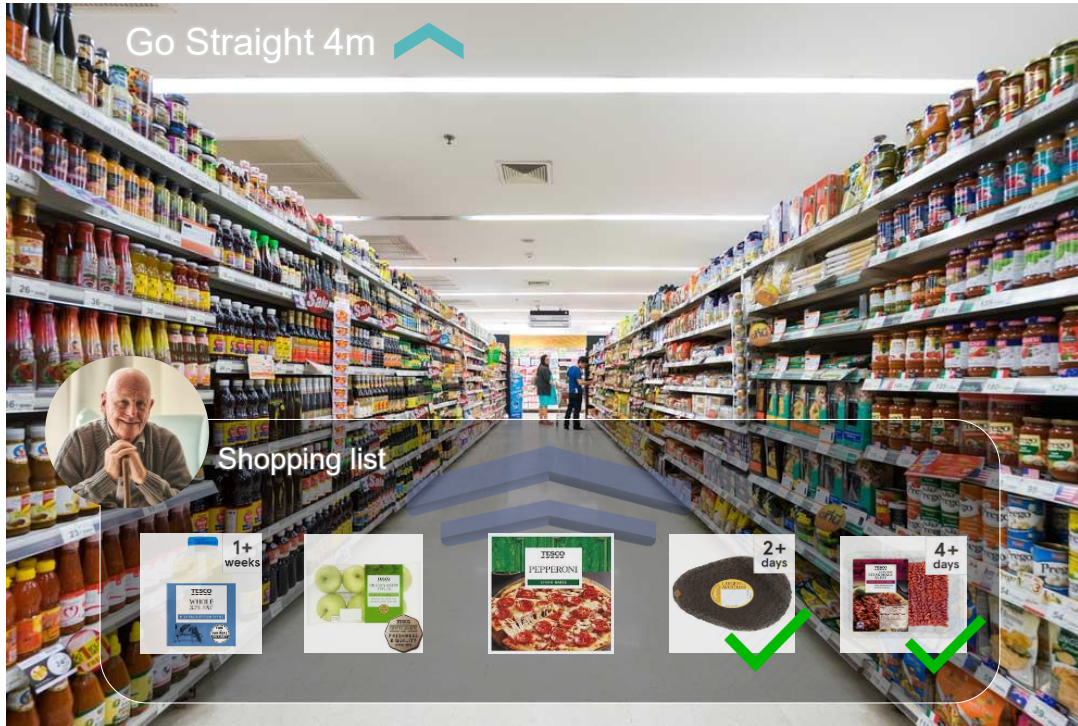


- Get-off the bus (arrival) reminder

Side Features

- Brightness level adjustment
- Long battery life
- Data Auto-backup to the cloud when charging
- Lightweight and durable materials

Key Features – Design board



Data Ethics

About our product:

Transparency: The benefit is clear and all data use is proportionate to the **user's need**. Make sure users know their data will be collected.

Accountability: Internal guidelines and **access right** setting.

Fairness: Make sure all users can access the latest version (**no additional subscription needed**).

Sustainable: Market **review** regularly, ensure product subject to market conditions and competitive dynamics → **long-term profitable** product.

Respecting Privacy: value cybersecurity → **data safe**
data collected is only used to analyse users' daily activity and habits.

Human Oriented: Understand the **data** have **limited**.

Design benefit to the user and the public > commercial interests



**THANK
YOU!**



References

- Digital, N., Recorded Dementia Diagnoses, M., Diagnoses, R., & Recorded Dementia Diagnoses, M. (2022). Recorded Dementia Diagnoses, May 2022 - NHS Digital. Retrieved 10 July 2022, from <https://digital.nhs.uk/data-and-information/publications/statistical/recorded-dementia-diagnoses/may-2022>
- Floridi, L., Cows, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Luetge, C., Madelin, R., Pagallo, U., Rossi, F., Schafer, B., Valcke, P., & Vayena, E. (2018, November 26). AI4People-an ethical framework for a good AI Society: Opportunities, Risks, principles, and recommendations - minds and machines. SpringerLink. Retrieved March 11, 2022, from <https://link.springer.com/article/10.1007/s11023-018-9482-5>
- Frequency of food shopping trips by age group in the UK 2020. (2020, June 12). Statista. <https://www.statista.com/statistics/1125722/frequency-of-food-shopping-trips-by-age-group-uk/>
- IEEE. (2019) A Call to Action for Businesses Using AI. Ethically Aligned Design for Business. New Jersey, IEEE Standards Association. Metcalf, J. (2016, June 23). Twelve principles of data ethics. Twelve Principles of Data Ethics. Retrieved March 11, 2022, from <https://ethicalresolve.com/blog/12principlesofdataethics.html>
- Knowledge and Research Hub. (2022). Retrieved 10 July 2022, from <https://www.rnib.org.uk/professionals/knowledge-and-research-hub>
- Luengo-Fernandez, R. & Landeiro, F. ,(2018). The Economic Burden of Dementia in the UK. Retrieved March 11, 2022, from <https://www.alzheimersresearchuk.org/wp-content/uploads/2015/01/Dementia2010Full.pdf>
- Prevalence. (2022, May 12). Dementia Statistics Hub. <https://www.dementiastatistics.org/statistics-about-dementia/prevalence-2/>
- The 2015 Ageing Report. (2015). Retrieved 10 July 2022, from <https://www.statista.com/statistics/478599/elderly-population-percentage-of-total-united-kingdom-uk/>
- Regulatory Policy Committee, (2019, September 10). Guidance Data Ethics Framework. GOV.UK. Retrieved March 11, 2022, from <https://www.gov.uk/government/collections/publications>