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Apps to the rescue

Part 1: Research and analysis

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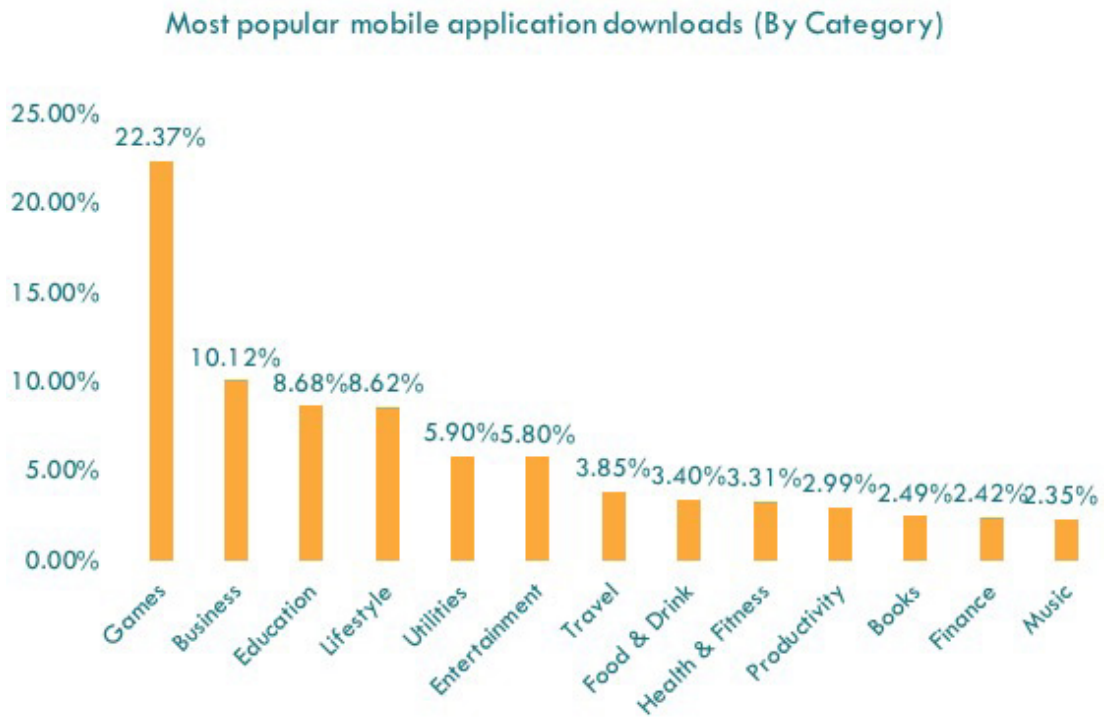
Slide 2

Mobile apps

There are now over fifty different categories of apps available, but research highlights that only seven of these categories manage to reach more that 3% of smartphone users.



Have you heard of this STEM career?

- The app market is seeing the revenue of more than $365 billion yearly (that's around £281.5 billion) and still growing.
- In 2023, mobile apps are projected to generate more than $935 billion U.S. dollars (around £721.3 billion)
- In 2018 consumers downloaded 194 billion mobile apps, up from 143.7 billion app downloads in 2016
- According to recent research, there were 23 million software developers in 2018, this number is expected to reach 26.4 million by the end of 2019 and 27.7 million by 2023
- The average Mobile Applications Developer Salary in the UK is £53,009 (Source: Reed Jobs)

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Slide 3

Research, analysis, develop

- What information does your phone store about you?
- How might that be useful in a health setting?
- How can this inform future app design?

Research

Detect your personal behaviour patterns through your phone use

Analysis

Predict your future behaviour, based on what you've done in the past

Develop

Adapt in response to changes in behaviour with health and wellbeing implications

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Slide 4

Activity one: Data analysis (research)

Complete the **Mobile phone use questionnaire** shared with you by your teacher.

Use the results to answer the questions on your **Data analysis student sheet**.

Have you heard of this STEM career?

- The job of a data analyst is to use data to acquire information about specific topics. This usually starts with a survey to gather the necessary information. The data is then analysed and presented in charts or reports
- Data analysts may also put their survey data in online databases for others to use
- Individuals looking for data analyst jobs must be knowledgeable in computer programs such as Microsoft Excel, Microsoft Access, SharePoint, and SQL databases
- The average salary for a Data Analyst in the United Kingdom is £35,000 (Source: Technojobs)

Slide 5

Activity two: Hidden sensors (analysis)

The average smartphone has at least 14 sensors, including these:

Fingerprint sensor
A fingerprint sensor is used to add an extra layer of security.

Pedometer
More and more phones are including a fitness element. Experts recommended adults do 10,000 steps a day for health maintenance.

Light sensor
Have you ever turned your phone on in the dark and had it be too bright? Your light sensor may have been malfunctioning slightly.

Thermometer
If you've ever left your phone out in the sun, you've most likely seen it turn off due to heat. The thermometer is how the phone monitors it's internal operating temperature.

Camera
What would you do without your selfies? Some phones also use the camera to identify the user for security purposes.

Proximity sensor
This is what keeps you from accidentally pressing buttons with your cheek during calls!

Magnetometer
The magnetometer measures the strength of the magnet field around the device to determine what direction it is moving.

Accelerometer
Have you ever wandered how your phone knows which way you are holding it to display vertically vs horizontally? It's all down to the accelerometer.

Microphone
The oldest sensor on any phone, making it possible for others to hear what you are saying and record your voice in videos.

Gyroscope
If you like taking non-blurry photos, you have the gyroscope to thank. It helps to correct naturally occurring camera shake.

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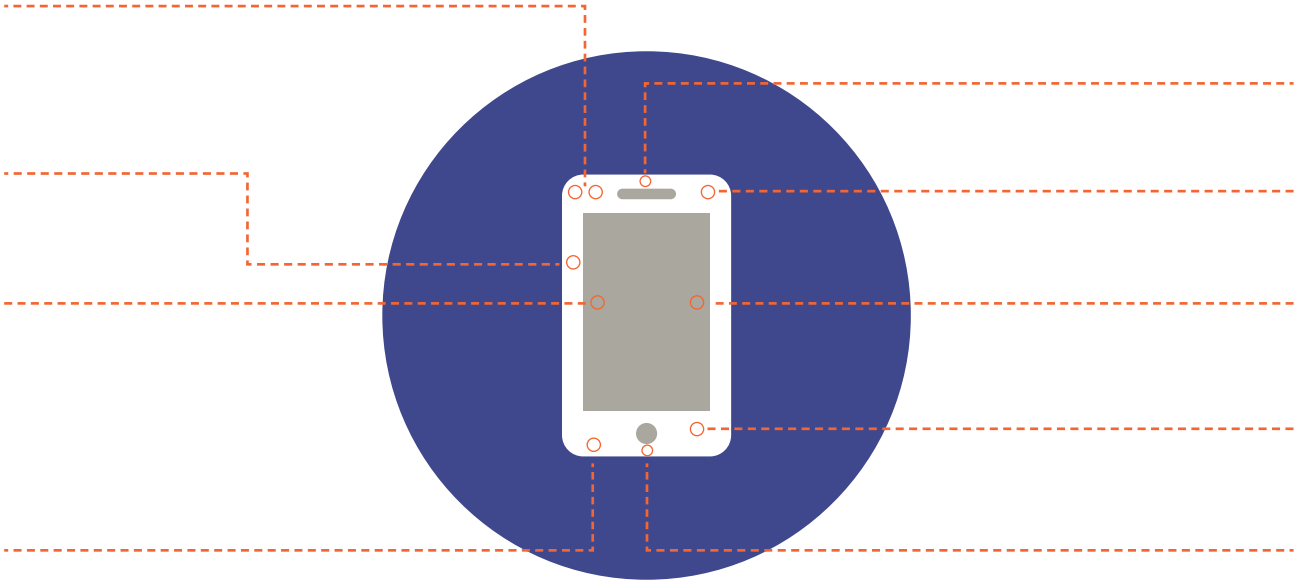
Slide 6

Activity two: Hidden sensors (analysis)

The average smartphone has at least 14 sensors, including these:



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Slide 7

Activity two: Hidden sensors (analysis)

The average smartphone has at least 14 sensors, including these:

Camera

Tracks facial expressions that may reveal mood and anxiety states as well as eye movements that may reveal medication side effects and offer clues to diagnosis.

Wi-Fi

Tracks location when GPS is not available; can tag specific sites, such as a gym or a workplace.

Bluetooth/Near Field Communication (NFC)

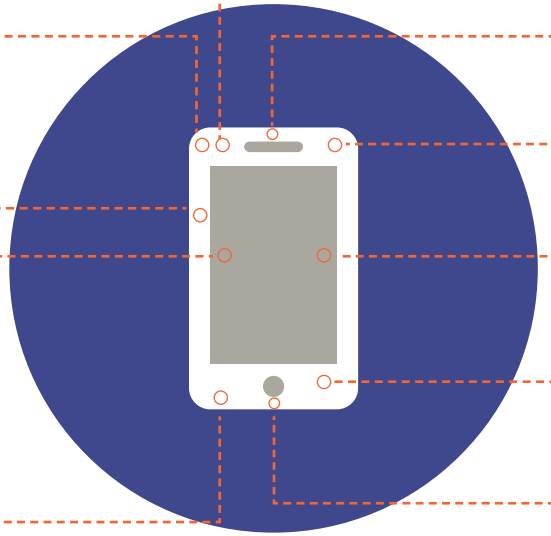
Tracks proximity to other Bluetooth devices; useful for measuring social relationships or check-ins at doctor appointments.

Heart rate sensor

Detects changes in the nervous system, which could indicate things such as increased anxiety.

GPS

Tracks social rhythms; potentially useful in treatment of a range of disorders.



Accelerometer/ gyroscope

Tracks general physical activity; potentially useful in treatment of a range of disorders.

Ambient light sensor

Can offer information about sleep environment or help guide/ calibrate light therapy for seasonal affective disorder.

Touch screen

Tracks response time and time to complete tasks; useful in inferring elements of cognition.

Proximity sensors

Tracks social behaviour; potentially useful in treatment of a range of disorders.

Microphone

Tracks tone of voice and ambient social environment; potentially useful in treatment of a range of disorders.

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Next time…

Apps to the rescue – Part 2: develop

Find out more at:

GSKstemeducation.com