Life in code

Computer science is part of your daily life – even if you can't see it

GAME OF HOMES

Robotic vacuum cleaners, such as Dyson's 360 Eye, clean your home by tracking the floor plan and memorizing their path so they don't cover the same area twice. You can also program them by smartphone.

CS USED: ALGORITHMS, ARTIFICIAL INTELLIGENCE, SOFTWARE DESIGN

FITNESS FRIENDS

Fitness apps count calories, record your heartrate and track your daily activity via your smartphone. Some fitness apps, such as JEFIT, also have exercise databases that help you design and log your workouts at the gym.

CS USED: DATABASES, USER INTERFACE

ON THE MONEY

ATMs and apps give you fingertip access to cash and account balances without having to stand in line to see a bank teller.

CS USED: EMBEDDED SYSTEM PROGRAMMING, DATABASES, SECURITY, ENCRYPTION

THRASH IT OUT

Players bend reality to their will when building entire worlds in video games such as *No Man's Sky* and *Minecraft*. These games generate unique environments for each player using an algorithm-based method called procedural generation. Lifelike video games, such as *Call of Duty* and *Fallout 4*, feature "intelligent" enemies that can respond to, and learn from, player behavior and act unpredictably.

CS USED: PROGRAMMING GRAPHICS SOFTWARE, ARTIFICIAL INTELLIGENCE, CLIENT-SERVER INTERACTION

CREATING ANIME

Anime, such as the awesome series *Kabaneri of the Iron Fortress*, has a distinct visual style and innovative production methods. Computer animation became prominent in the 1990s with films, such as *Ghost in the Shell* and *Princess Mononoke*, combining traditional celluloid (or cel) animation with digital processes. Coding and digital media are essential skills in anime. You can create your own anime through a wide range of software, such as Smith Micro's Anime Studio Pro 11.

CS USED: PROGRAMMING GRAPHICS SOFTWARE, ANIMATION, RENDERING, SCATTERING, SOFTWARE DESIGN

ANYWHERE, ANYTIME

Online grocery stores, such as Amazon Prime and Netgrocer, can do same-day deliveries to your door and predict which products you like based on what you've put in your cart in the past.

CS USED: DATABASES, WEB PROGRAMMING, ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, NETWORK SECURITY, ENCRYPTION

BINGE WATCH

Streaming media, such as Netflix and Hulu, allow you to watch a large assortment of films and TV shows on demand. According to a report from the commercial broadband company Sandvine, Netflix accounts for more than 37% of North American Internet traffic. What "streaming" services do you use?

CS USED: DATABASES, USER INTERFACE, COMPRESSION ALGORITHMS

FOLLOW ME

According to the not-for-profit advocacy site Common Sense Media, American teens spend on average one hour and 11 minutes a day using social media, creating, sharing and exchanging info. How does your use stack up?

CS USED: DATABASES, USER INTERFACE, SEARCH, VISUALIZATION, SECURITY MODELS

follow TWEET

CALL OF DUTY BLACK OPS III