

# KNOWLEDGE ROBO-CAFÉ 2020

WELCOME TO THE BRISTOL ROBOTICS LABORATORY!

TODAY WE'RE ASKING...

HOW CAN ROBOTIC TECHNOLOGY SUPPORT DISABILITY RIGHTS?

DISABILITY RIGHTS & ROBOTICS: CO-PRODUCING FUTURES

OR TO PUT IT MORE SIMPLY...

ROBOTIC TECHNOLOGY IS CHANGING HOW WE LIVE...

ALEXA!!!

...SO WHAT DOES THIS MEAN FOR DISABLED PEOPLE AND THE PEOPLE IN THEIR LIVES?

HOW COULD ROBOTS BE USEFUL?

TO LOOK AT THIS QUESTION, WE NEEDED SOME RESEARCHERS...

PEOPLE WITH LIVED EXPERIENCE OF DISABILITY

ACADEMICS & STUDENTS IN ROBOTICS & SOCIAL SCIENCES

SOME OF US ARE IN BOTH GROUPS!

FAIRFIELD COLLEGE STUDENTS

UWE HUB GROUP

WILT'S CIL

BRISTOL ROBOTICS LAB

SOCIAL WORK STUDENTS

...AND WE NEEDED SOME

## ROBOTS

DOUBLE: A TELEPRESENCE ROBOT THAT YOU CAN CONTROL REMOTELY

PEPPER: A COMPANION ROBOT... ANSWERS QUESTIONS, FOLLOWS INSTRUCTIONS AND HANGS OUT WITH YOU

FIRST THOUGHTS BEFORE MEETING THE ROBOTS...

HOW WILL THEY WORK?

DO THEY HAVE FEELINGS?

WILL THEY UNDERSTAND ME?

WHAT CAN THEY HELP WITH?

HOW LONG DO THEY LAST?

HOW SAFE ARE THEY?

WHAT CAN THEY LEARN?

UNSURE

ANXIOUS

FIRST THOUGHTS AFTER MEETING THE ROBOTS...

WOOOO!

NOTHING EMBARRASING ABOUT USING THIS- IT'S COOL!

IT'S LIKE CHRISTMAS!!!

THESE ROBOTS ARE COOL...

BUT ARE THEY USEFUL?

DOUBLE COULD BE GREAT FOR PEOPLE WHO ARE ISOLATED

I CAN BE THERE WITHOUT BEING THERE!

PEPPER COULD BE A NON-JUDGEMENTAL BUDDY & HELPER...

NOW ADD THE EGGS...

...WHO COULD BE RELIED ON TO REMEMBER IMPORTANT STUFF.

IS YOUR ROOM TIDY? GRAN'S VISITING IN TWO HOURS...

NEITHER ROBOT WAS PERFECT. BOTH HAD THAT AGE OLD ROBO-PROBLEM...

WE! CAN'T! DO! STAIRS!!

SO I NEED ONE FOR UPSTAIRS TOO??!

...AND PEPPER DIDN'T WORK WELL IF THERE WAS TOO MUCH COMMOTION...

NOR DID WE!

I USE MY PHONE TO SPEAK FOR ME - PEPPER DIDN'T UNDERSTAND ITS VOICE

HMMM...SO A FEW SETBACKS TODAY...

GREAT!!!

IT'S SHOWN US WHAT IS POSSIBLE... AND STARTED A CONVERSATION!

WHAT WORKED TODAY?

WHAT DIDN'T?

WHAT ARE THE OPPORTUNITIES?

WHAT ARE THE PRIORITIES?

WHAT DO WE WANT FROM ROBOTS?

HOW DO WE WORK TOGETHER AS CO DESIGNERS?

WHAT'S IMPORTANT TO US?

WHAT NEXT?

WE ALL AGREED ON THE ONE BIG POINT FROM THE DAY...

**'CO-DESIGN IS ESSENTIAL - WITHOUT IT, IT'S POINTLESS!'**

IF YOU DESIGN ROBOTS FOR US, BUT WITHOUT US...

I GIVE YOU...THE ROBO-GUIDE DOG!

CAN IT HEAR ME OVER THE TRAFFIC NOISE?

IT'S NOT VERY STROKEABLE...

WHO SAID I WANTED A GUIDE DOG ANYWAY?!

...YOU RISK WASTING BUCKETS OF TIME, EFFORT & MONEY

SO THE PEOPLE YOU'RE DESIGNING WITH NEED TO BE INVOLVED FROM THE VERY START

WE NEED TO FEEL RELAXED TO WORK WELL...

WE LIKE TO KNOW WHAT TO EXPECT

SMALLER GROUP SIZES HELP

MAYBE WE COULD HELP SET UP THE SESSIONS?

WE NEED ROBOTS THAT ASK THE RIGHT QUESTIONS & TALK TO US IN THE RIGHT WAY

SO FIRST WE NEED OUR ENGINEERS TO DO THE SAME

YOUR TURN!

MORNING! HOW ARE YOU DOING? NEED HELP WITH ANYTHING?

WELL I HATE BEING CALLED A 'DISABLED YOUNG PERSON' FOR STARTERS...

TAKE TIME GETTING TO KNOW US

IT'S NOT JUST ABOUT NUTS AND BOLTS

IT'S ABOUT OUR FEELINGS...

...OUR DIFFERENCES

PEOPLE NEED TO BE AT THE HEART OF ROBOT DESIGN!

AND IT'S NOT JUST THE PEOPLE WHO'LL BE USING THE ROBOT THAT WE NEED TO TALK TO...

FAMILIES

SCHOOLS & COLLEGES

HEALTHCARE CARERS

OUR COMMUNITY

BUSINESSES

THAT'S QUITE A CHALLENGE!

LUCKILY OUR ROBOTICS TEAM ARE WELL UP FOR THIS

ANYWAY THAT'S ENOUGH FOR NOW ABOUT CO-DESIGN AND SUCH...

LET'S TALK ABOUT THE ROBOTS!

**DESIGNING ROBOTS IS TRICKY!**

WE WANT ROBOTS TO BE UNIVERSAL... BUT PERSONAL TO US!

...LIKE A HUMAN... BUT NOT TOO HUMAN!

...SMART... BUT NOT TOO SMART!

WHAT DO WE DO WHILST IT LEARNS??

PLEASE WAIT WHILE I UPDATE

HOW LONG WILL IT TAKE?

WHO SETS IT UP?

**THEN THERE'S ETHICS...**

ROBOTS COULD DO LOADS OF THINGS...

...BUT IS IT RIGHT FOR THEM TO DO THEM?

CAPABILITY

ETHICS

**HOW SHOULD A ROBOT LOOK?**

PEOPLE TRUST CUTE ROBOTS MORE... IS THAT A GOOD THING?

EXPENSIVE UPGRADES MAKE ME HAPPY!

IS IT OKAY IF YOU BECOME ATTACHED TO YOUR ROBOT?

BEST FRIENDS FOREVER?

WHAT IF IT BREAKS?

**HOW MUCH CONTROL SHOULD A ROBOT HAVE?**

CAN I SAY 'NO' TO IT?

CAN IT SAY 'NO' TO ME?

WHO CONTROLS YOUR ROBOT?

CAN IT BE HACKED?

**WHAT ABOUT YOUR PERSONAL INFORMATION?**

WE'RE ALREADY USED TO TECH MONITORING US & SHARING OUR DATA (NOT ALL OF US LIKE IT!)

**WHEN IS SHARING HELPFUL? WHEN IS IT AN INVASION OF YOUR PRIVACY?**

YOU'LL NEVER GUESS WHAT SHE SAID NEXT...

**CHOICE IS IMPORTANT...**

DO YOU CONSENT TO ME SHARING NON-OPERATIONAL DATA WITH TRUSTED THIRD PARTY PARTNERS?

...AND THE CHOICES NEED TO BE EASY TO UNDERSTAND!

WHO HELPS YOU CHOOSE?

WE WANT ROBOTS TO BE NORMALISED... IN HOMES, SCHOOLS, HOSPITALS... EVERYWHERE...

WHO PAYS FOR THESE ROBOTS?

CHARITY? SCHOOLS? LOCAL GOVERNMENT? NHS? YOU?

WHAT ABOUT PEOPLE WHO DON'T HAVE ACCESS TO THEM?

**OVERALL WE THINK ROBOTS ARE HELPFUL...**

- ..A VERSATILE TOOL
- TO HELP THINGS RUN LIKE CLOCKWORK
- A COMFORT WHO'S ALWAYS THERE
- & CAN MONITOR AND REPORT

...BUT CARING IS MORE COMPLICATED...

MATE THAT'S YOUR 'I'M FINE (NOT FINE)' FACE...

HOW'S YOUR DAY BEEN?

\*BETTER THAN YOUR COOKING...\*

ROBOTS CAN HELP HUMAN CARERS BUT THEY CAN'T REPLACE THEM

**SO WHAT NEXT?**

OUR FIRST KNOWLEDGE ROBO CAFE WAS A GREAT SUCCESS...

...AND WE HAD MORE PLANNED!

WE WERE EXCITED ABOUT TRYING A DRIVERLESS CAR...

...AND A SMART HOME SPACE

**BUT THEN...**

**COVID HAPPENED**

NO MORE MEET-UPS... NO DRIVERLESS CAR... IT WAS RUBBISH!!!

**BUT...**

...LOCKDOWN FOCUSED OUR MINDS ON HOW ROBOTS COULD BE REALLY USEFUL...

...IF YOUR CARER CAN'T USE THE BUS...

...OR CAN'T COME TO YOU AT ALL...

ON MY WAY!

I'VE GOT TO ISOLATE, BUT I CAN STILL CHECK YOU'RE OKAY

...TO HELP HOLD THE FORT UNTIL HELP COMES...

OR TO SEND AN ALERT TO SAY THAT HELP IS NEEDED NOW!...

TO HELP PEOPLE STAY CONNECTED & ACTIVE...

...AND TO HELP MAKE MY FIRST STEPS BACK INTO THE 'NEW NORMAL'

**SO WHAT NEXT???**

WELL, THE IDEAS AND THOUGHTS FROM THE KNOWLEDGE CAFE WILL LIVE ON...

INSPIRING NEW ROBO-PROJECTS...

...AND A NEW WAY TO GO ABOUT THEM

THEY MAKE US ASK MORE QUESTIONS...

DO WE NEED WORLDWIDE RULES FOR ROBOT DESIGN?

...AND THEY'LL GO INTO A REPORT TO SHARE WHAT WE'VE LEARNT...

REPORT

...AND HELP GET FUNDING TO CARRY ON

WE CAN SHOW OTHER ROBOTICS ENGINEERS HOW TO RUN ROBO-KNOWLEDGE CAFES WITH THE COMMUNITY...

...SHARING THE CO-DESIGN APPROACH AND MAKING A DIFFERENCE IN BRISTOL & EVEN WORLDWIDE!

NOT BAD FOR A DAY'S WORK! WELL DONE CO-DESIGNERS!