DPRG March Monthly Meeting - March 23,2024
Part 1

Part 1- KABAM Robotics

Carl Ott
10:49 AM
Guys I think our presenters laptop went into batteyr saving
keep
Pin message
Pat C
10:51 AM
We lost Paul's audio
OK now
Carl Ott
10:52 AM
We reattached the audio mic laptop and also the presenters laptop to a different wi-fi network. we think they were booted after being attached to the Makerspace guest network
keep
Pin message
Carl Ott
10:54 AM
All good for audio remotely? Not too quiet? Not too loud & Clipping?
keep
Pin message
Pat C
10:54 AM
Working great
Ray Casler
10:55 AM
It is in the goldielox zone
Carl Ott
10:55 AM
awesome
keep
Pin message
Carl Ott
11:03 AM
~ 11:00 - use cases - parking garage monitoring #1 use case in the US
keep
Pin message
Carl Ott
11:07 AM
~11:06 - Amazon is company with most robots in the world...
keep
Pin message
Carl Ott
11:09 AM
11:08 - Robotic Middleware Framework (RMF) - Initiative sponsored by/in Singapore
keep
Pin message
Carl Ott
11:11 AM
can you hear the audience question?
keep
Pin message
Ray Casler
11:11 AM

no it is garbled
Carl Ott
11:12 AM
questions about career opportunities - listed openenings in Singapore? Network here? answer yes...
keep
Pin message
how important to speak language of Singapore - Malay? Answer not important. English is default
keep
Pin message
Carl Ott
11:15 AM
question about robot as a service - answer - standards - whole package (security, maintenance, etc.) - integration with customer workflows is key / understanding needs & robot capabilities, and adapting workflows & 'consulting type channel' to integrate with customers needs & workflows
keep
Pin message
Carl Ott
11:16 AM
question - what exactly is robot looking for? Person in wrong room - or person with robot?
keep
Pin message
Carl Ott
11:17 AM
answer - detecting smoking / detecting facial recognition (vs. detection) / is it a human / how many humans / vehicle. There are other companies performing video analytics - hence - workflow - Kabam able to stream as needed & integrate workflows with those various pieces.
keep
Pin message
question - using MS Azure? answer - mainly use AWS - now hosted also in AWS on US. Azure support in work - expected full support end of the year
keep
Pin message
question - LiDAR - 3D? (answer yes). How does it deal with navigation?
keep
Pin message
Carl Ott
11:19 AM
answer - map robot / push it around with LiDAR to map. And then you set up it's mission (point A to point B). So it will then map the most efficient route, considering constraints. Indoor/Outdoor LiDAR different, also using CV
keep
Pin message
Carl Ott
11:21 AM
question - 2D LiDAR - a line scan? answer - yes - hocky puck. Multiple LiDAR on outdoor robots - is a big piece. Especially outdoor - have to be ale to stop robot vs. run over someones foot. Especially in Singapore - so population dense, have to be able to handle safe operation around people
keep
Pin message
11:21 - US expect to put out 50 security robots in the US this year. Total market half a million.
keep
Pin message
Carl Ott
11:23 AM
question - why not have the elevator robot simply roll into the elevator and push the button?
keep
Pin message
question about modularity / based on ROS - can you have 3rd party dev add apps?
keep
Pin message
answer - yup - do it all the time e.g. sound integration - some cool proprietary integrations...

keep
Pin message
Carl Ott
11:24 AM
question - any arial assets?
keep
Pin message
Carl Ott
11:25 AM
Arun - please post your question- I'll raise it for you
keep
Pin message
Carl Ott
11:27 AM
answer - current hardware is AGV (autonomous ground vehicle) - but can integrate software.
keep
Pin message
Arun Raghu
11:27 AM
I am curious to know what the battery capacity of the robot is and what is the average power consumption of the robot is?
Carl Ott
11:28 AM
question - can you share info about tech stack? answer - probably asking wrong guy - ask CTO / director
keep
Pin message
power question - run time generally 6.5 hours with 40 AmpHour - can scale to 120 AmpHour.
keep
Pin message
Arun Raghu
11:30 AM
thank you so much.
Carl Ott
11:30 AM
but need to think about security robot differently - e.g. inductive charging- sentry robot at monitoring place -robot able to sit and charge while monitoring environment
keep
Pin message
question- what wireless communication? Wi-Fi is such a bear
keep
Pin message
Carl Ott
11:31 AM
answer- of course support Wi-Fi - but also LTE - looking forward to Wi-Fi 7. Huge case for Private LTE at the enterprise level. Your enterprise would have your own SIM cards - so everything w/in a ~ 1.5 mile radius / can communicate
keep
Pin message
helps with Robots consuming 8GB or 9 GB /month - (operators tend to love staring at videos even though automation can reduce the need for humans to monitor video)
keep
Pin message
Carl Ott
11:32 AM
question - LoRA WAN?
keep
Pin message
answer - these robots (Kabam) don't need connectivity to work.
keep
Pin message

Carl Ott
11:33 AM
question- why did KABAM based software stack on ROS? answer - think CTO came from ROS and engineering staff is ROS intensive...
keep
Pin message
e.g. ROS Singapore group - KABAM always active in that...
keep
Pin message
Carl Ott
11:35 AM
question- what looking to hire in the US?
keep
Pin message
Carl Ott
11:37 AM
answer - not PHDs. More like people not afraid to roll up sleeves & turn wrenches. Wouldn't go directly to an e.g. Chase Bank - would rather work with integrators. Hence, teams will be geographic market based sounds like staff will train and support 'integrator distribution' channels.
keep
Pin message
Carl Ott
11:47 AM
Resource - main things at first - probably start with Field Sales Engineers / paired up with Business Development sales people. Eventually build up R&D in the DFW area
keep
Pin message
Carl Ott
11:49 AM
question - how many interested in a tour of the KABAM experience center?
keep
Pin message
answer - lots in the room interested. Potentially 2nd or 3rd week of April ~ 20 April
keep
Pin message
Pat C
11:51 AM
We lost audio
Muted
Carl Ott
11:51 AM
I've enabled my PC
keep
Pin message
we'll get that sorted
keep
Pin message
Pat C
11:51 AM
OK now
Pat C
11:54 AM
Question for Ray, what foc controller are you using on your hoverboard motors?
I would like a slice!
Ray Casler
11:55 AM
mks dual foc 3.2 from aliexpress
Pat C
11:55 AM
Are you using that with an AS5600?

Ray Casler
11:55 AM
yes