- ☐ Project management
- ☐ POC
- ☐ MVP
- ☐ Prototyping
- ☐ 3d printing centers

And applications

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Feb 2021, 1st edition

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Document editing application • Scan documents • OCR • Automatic translation of text

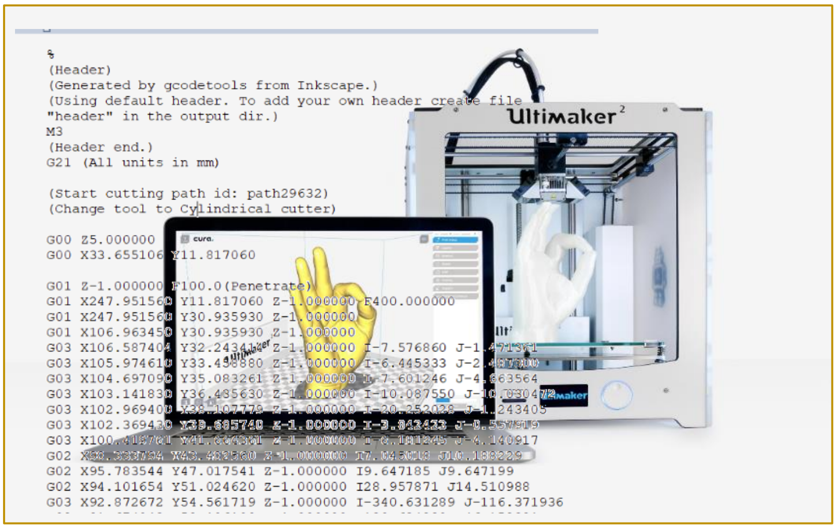
Augmented reality headset • Ergonomic • No lenses needed • Optional optical aperture for stereoscopic VR • Hand movement BLE controller

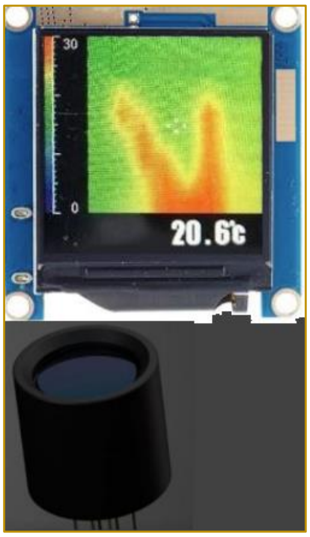
Tactile navigation app • active sensing • translate the required angle of walk into vibrations • Accessory for the visually impaired

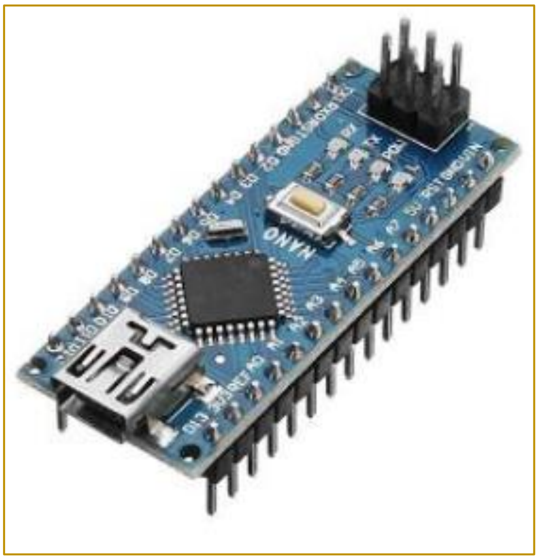
By Hanassy

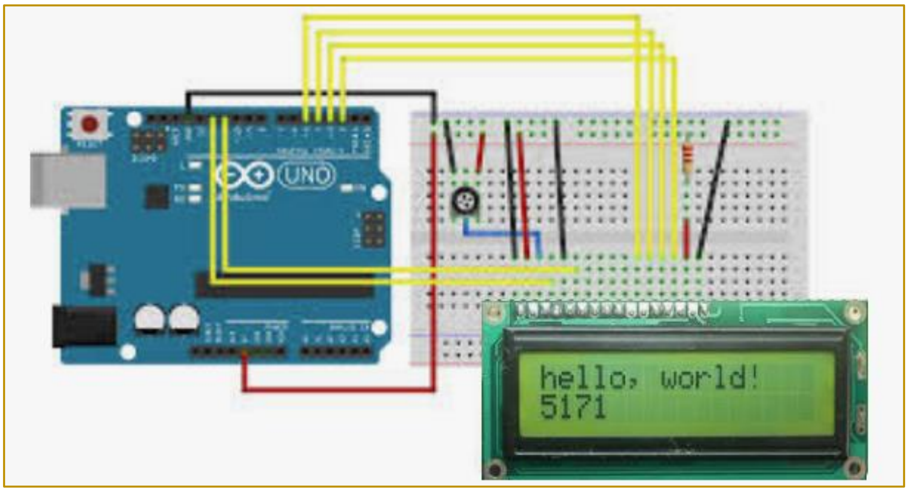
Rapid Prototyping

3D printing • industrial • 3D printing farms • rapid prototyping boards • electronics

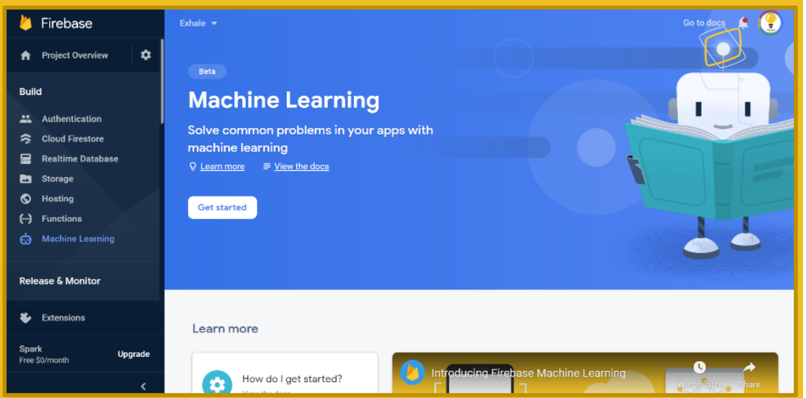


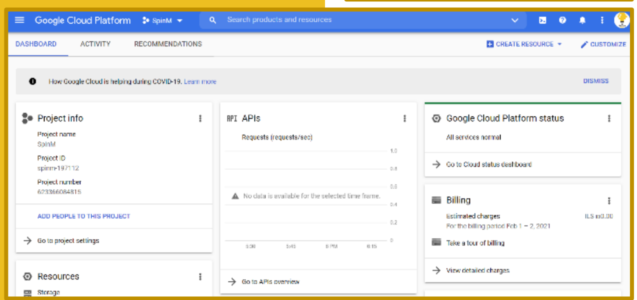


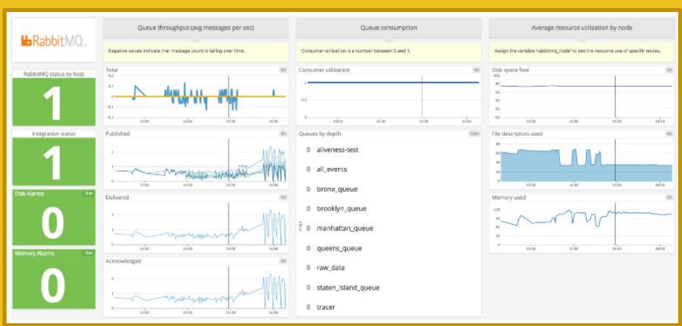


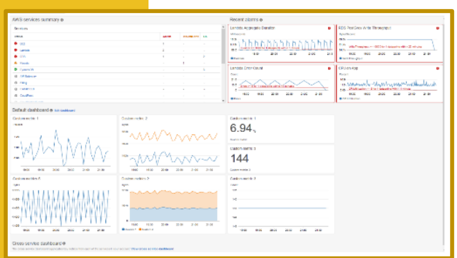


Data mining • ML/DL micro services • information centers





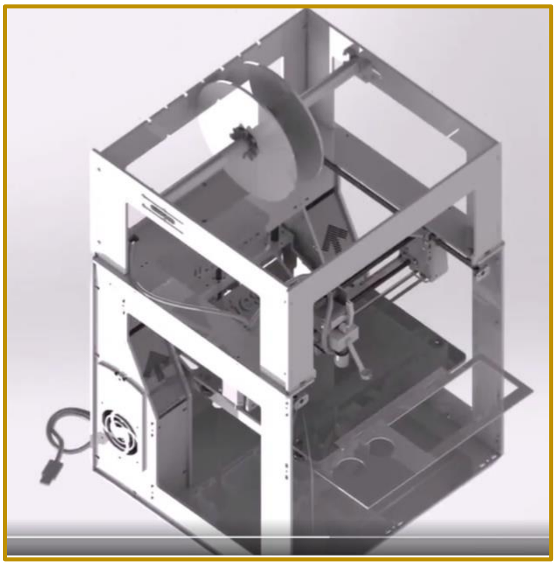


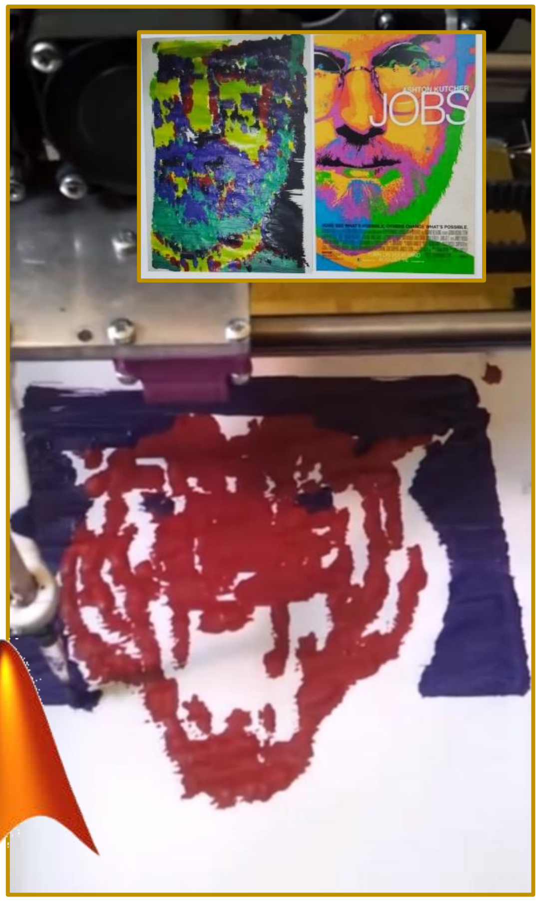


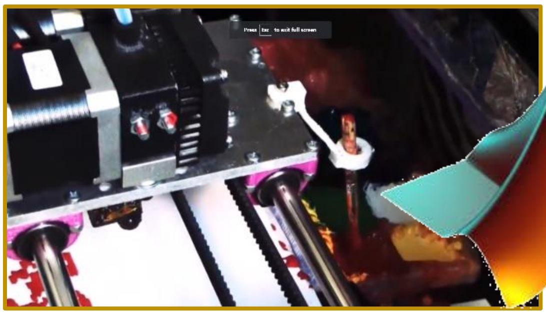
By Hanassy

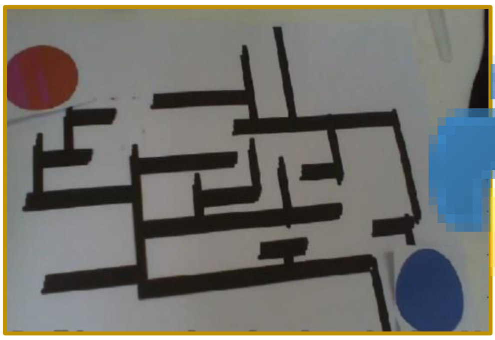
Algorithms and code POC

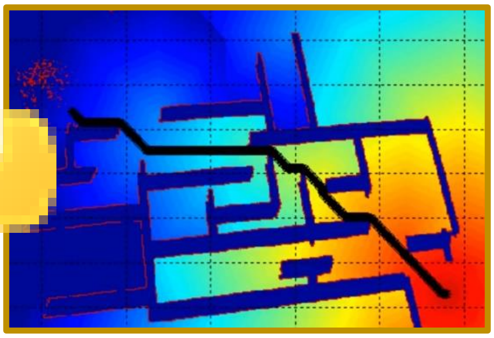
Top images: 3d printing machine modified to paint-brush using our Matlab SW GCode generator • **Middle:** Dijkstra's algorithm for robotic applications using camera top vision • **Bottom (left to right):** SVM color detection algorithm • automatic calibration robot results • Quadro-copter drone application- design and real

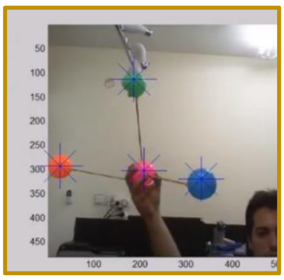


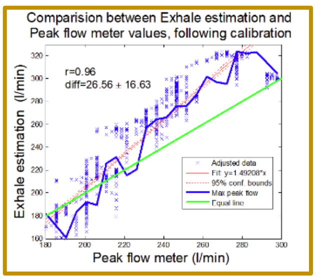




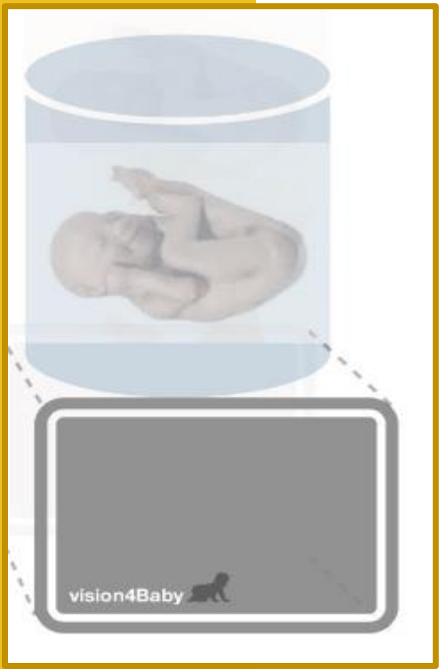




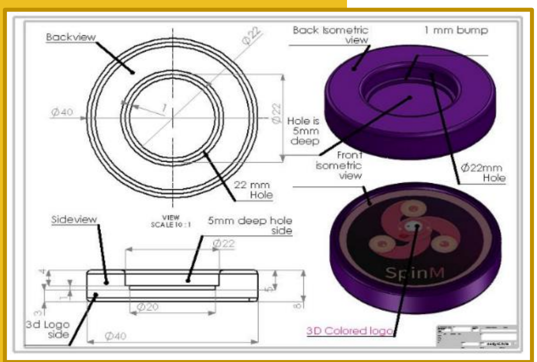




Industrial and total design



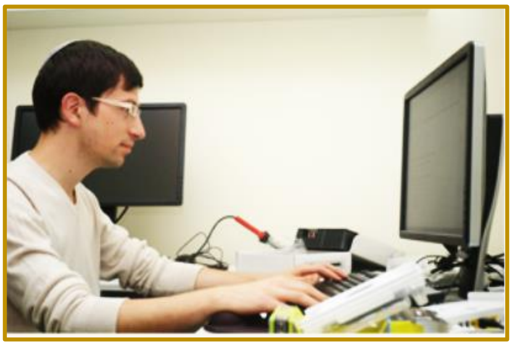
SOLIDWORKS

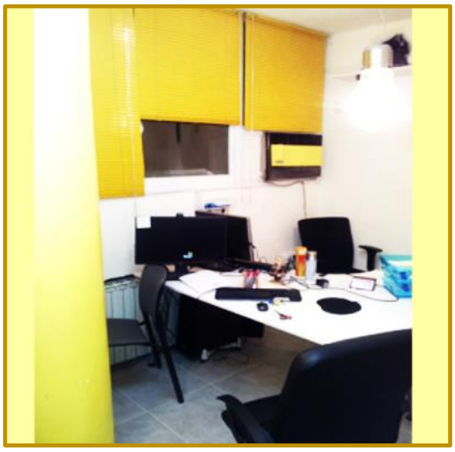


By Hanassy

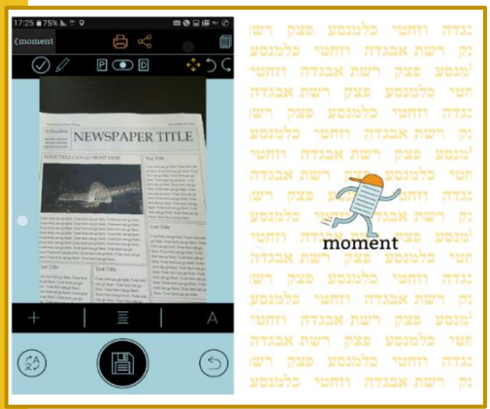
Agile Project management • R&D working environments and setups • team recruitment • training • Zoom courses

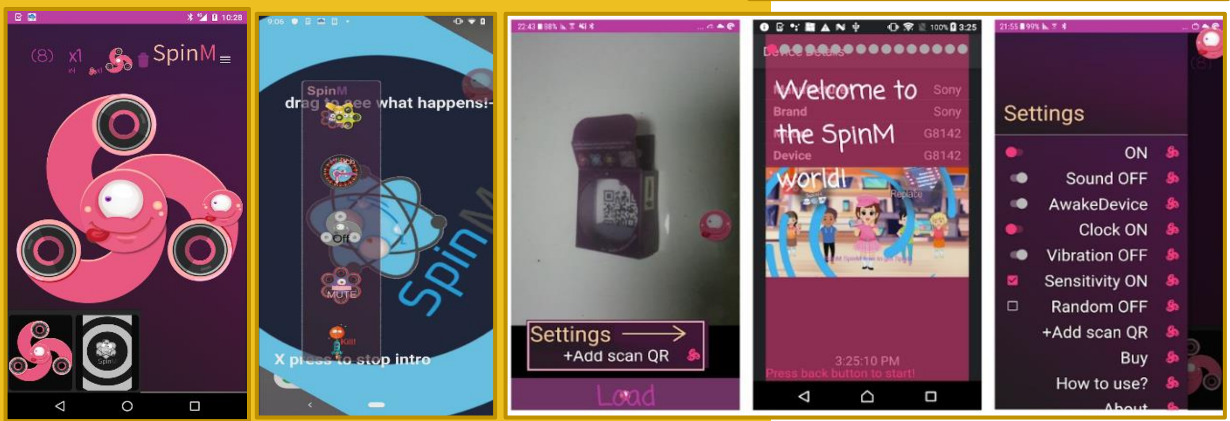


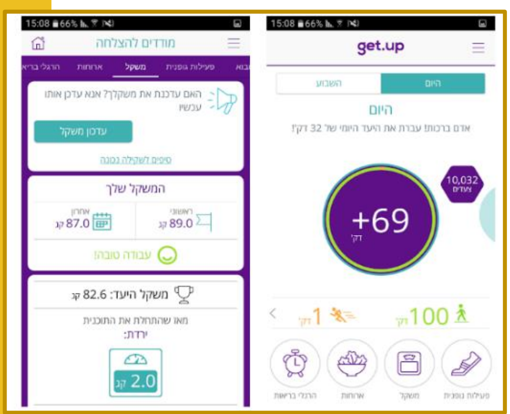


Mobile technology and apps MVP







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How to Andro-ino? RC/BLE car-toy

FDM 3d printing

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PIONEERING SOLUTIONS AND NOVEL EXPERIMENTAL MEDICAL METHODS FOR ER AND HOSPITALS

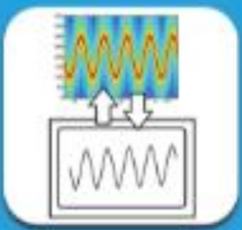
Investment opportunities

By Hanassy

Pulmonology self-taken test and AI technology controlled diagnosis using a mobile app with a special magnetic sensor

In-house 3d printed rubber mask product lines Remote fever alert sensors and air conditioning unit for face mask

Magnetic air pressure sensors for respiration machines In-house 3d printer respiration machine product-line



Rehabilitation technology for partial sensory brain damage based on multi-sensory integration

Artificial muscles for bio-inspired robotics

Crowd load relief in waiting lines integrating "queue theory" technology in a mobile app

Fake news prevention integrating data mining and NLP technology mobile application

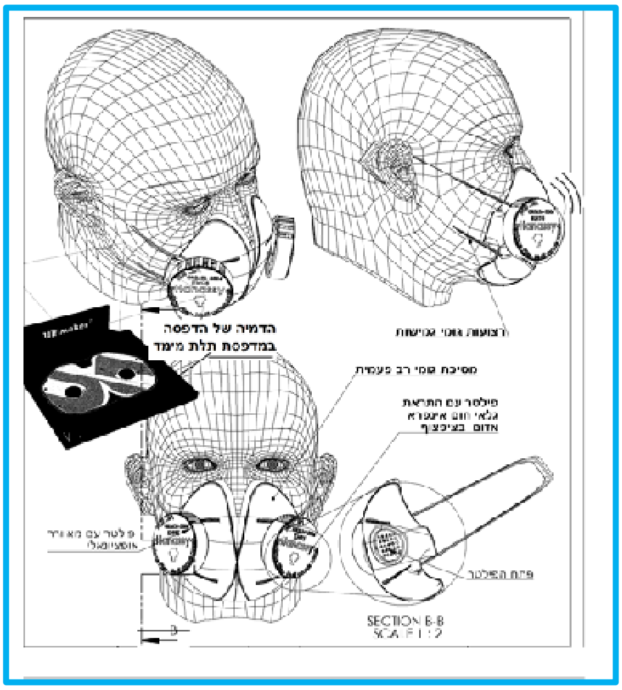
By Hanassy

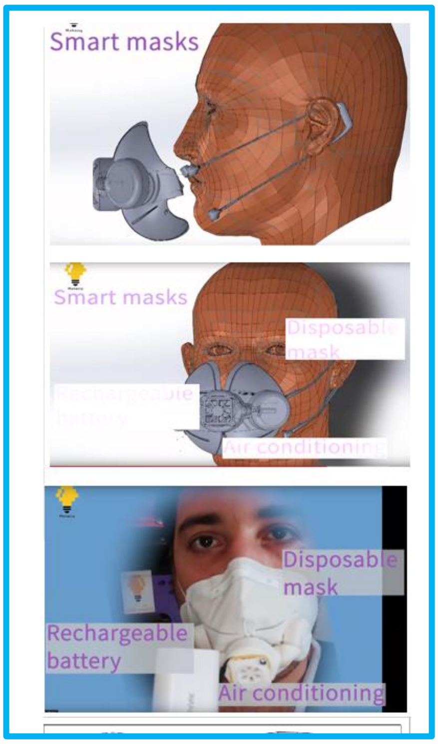
Pulmonology self-taken test and AI technology controlled diagnosis using a mobile app witha special magnetic sensor

- Exhale is an experimental pioneering application
- Education and pulmonology training
- Standard spirometry diagnosis process
- Monitor and track the lungs condition
- Detect new prognosis patterns and epidemiology
- Using AI, ML and data-mining
- Continuously update application algorithm using big data research
- A special pneumatic mechanic magnetic adapter
- DIY instructions for building a home-exhalation sensor
- Standard spirometry procedure with your mobile sensors
- The data is sent via email to preserve your privacy

In-house 3d printed rubber mask product lines Remote fever alert sensors and air conditioning unit for face mask

- Rubber mask for multi-usage
- Long lasting material
- Low cost 3d printing machines
- Each machine may produce between 20-70 masks a day
- Beeping when detecting fever heat (36-42˚C from 2 meters away)
- Thermostat control of air cooling
- Energy saving with a smart computerized circuit



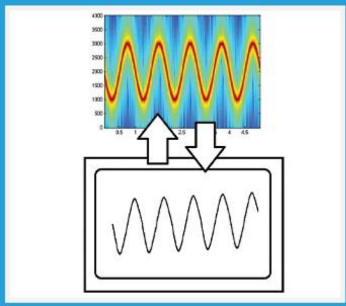


Magnetic air pressure sensors for respiration machines In-house 3d printed respiration machine product-line

- Experimental product line
- High quality 3d machines
- 3d printing Machine may cost as a single respiration machine

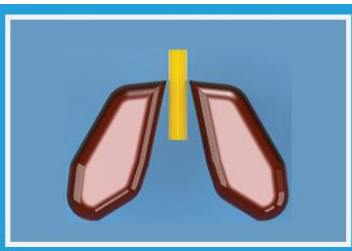
- May produce 1-3 respiration machines a day
- Feedback controlled
- Gas mixture for oxygen, anaesthetic and more
- Air compressing mixer
- Strong DC motors
- Custom pressure sensor set
- Electronic valve relay, motor activated mechanism for air tubes
- Computerised circuit based on mobile devices technology and Arduino
- Optional remote control application
- Optional robotic mobility mechanism inside hospitals

Rehabilitation technology for partial sensory brain damage based on multi-sensory integration



- Rehabilitation for Mild to moderate loss of senses
- Novel method never been used before
- Based on brain research and many behavioural experiments
- Gaming tool for rehabilitation
- Augmented reality device
- Multi-sensory rehabilitation (Hearing, vision, teste and more)
- Integrating several senses stimulation using a special promising method
- Temporary training and rehabilitation period

Artificial muscles for bio-inspired robotics



- Experimental muscle reconstruction
- For the purpose of implants and biological inspired robotics
- Using muscle-like structures
- Modular and autonomic unit
- Lego-like assembly
- Artificial muscles technology
- Combining electroactive polymers stacks with tiny solenoids
- Custom designed and integration for any muscular robotic organs

Load relief in waiting lines integrating "queue theory" technology in a mobile app

- Simple solution for waiting line loads
- Mobile device applications
- Anonymous registration
- Automatic load depended alert for costumers
- Remotely instructing costumers when to arrive
- Simple business registration to contact list
- Integrating location manager and GPS technology
- Costumer can remotely choose which line to register
- Queuing theory integrated- based on mathematical well established theory
- Load monitor
- Performance analysis and care
- Crowd load prevention

Fake news prevention integrating data mining and NLP technology mobile application

- Location based social news reporting, tracking and filtering application
- Integrating "wisdom of the crowd" and information cross checking
- Rating news relaying on their reported location
- Mapping news around the world
- Sorting news according to their location
- User interface for regional focus of news alerts
- Collecting data from the world wide web
- Using language generator and neurolinguistics language processing
- Integrating big data algorithms
- Automatic update and rating of news
- Panic to risk calculation

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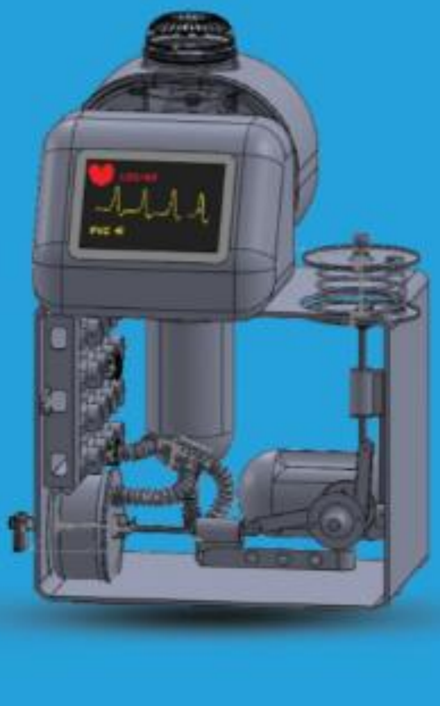

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Why is creating electronic canes for the blind so hard?

By Steph Yin · June 14, 2019

Listen 11:23

For decades, inventors have tried to re-engineer the standard white cane used by people who are blind or visually impaired. But it's a tricky task. (Image courtesy of WeWALK/Kürşat Ceylan)

If you've encountered someone who is visually impaired walking down the street, you might have noticed that person using a particular kind of cane: one that's white, sometimes with a red band.

It's white to make it very visible, and to signal to others that the user can't see.

For more than 50 years, people have tried to re-engineer this cane. There have been more than 100 "smart" cane inventions — attempts to build a cane that can detect obstacles and perform other functions electronically.

There's the UltraCane, the K Sonar, the C-5 Laser Cane … and the list goes on. But none of these have come close to replacing the standard white cane.

Maybe it has to do with cost. Smart canes can run anywhere from $100 to upwards of $1,000, while a standard white cane typically costs $20 to $60.

Or, maybe, the engineers designing these smart canes don't fully grasp the experiences and the needs of those who are blind. As a result, they often end up building devices that introduce more complications to the user, interfere with the white cane's natural dynamics, or otherwise miss the mark.

Room for improvement

People who are visually impaired have used sticks and staffs as travel aids for centuries, but the white cane was formally introduced in the 1920s and '30s, as cars became more popular and roads became riskier for pedestrians. The white color stood out against dark pavement.

After World War II, caregivers started developing techniques to help blinded soldiers regain their independence. That gave rise to a whole new professional field, called orientation and mobility. By the '80s, orientation-and-mobility training was being developed for children preschool-age and younger. In the

United States today, it's considered best practice to provide training as early as possible, even starting in infancy.

Around the world, the white cane has become a symbol of self-reliance and dignity for people who are blind. But it has its limits.

Kennedy, 5, is a student at the Overbrook School for the Blind, in West Philadelphia. She is learning how to use a white cane. (Steph Yin/WHYY)

At the Overbrook School for the Blind in West Philadelphia, students shared their challenges using canes. (School officials requested that only their first names be used to protect their privacy.)

"Sometimes, I have trouble getting around certain people, or finding certain objects," said Ethan, who is 17.

Big open spaces and drop-offs, like curbs and steps, can be hard, said Dauad, who is 14.

Kennedy, 5, said her cane gets caught on things, like grass or cracks in the sidewalk and pavement.

The white cane also can't detect obstacles that are far away. It leaves the upper body vulnerable to overhangs, such as tree branches. And there can be a steep learning curve with it.

At the Overbrook School for the Blind, students like Dauad and Ethan work with orientation and mobility instructors to practice navigating and getting around. (Steph Yin/WHYY)

Maybe because of those challenges, only an estimated 2% to 8% of people who are visually impaired use white canes. The rest rely on other people, guide dogs, or their usable vision — about 85% to 90% of those who are blind or visually impaired actually have some low level of sight.

Could there be a better cane? One that more people want to use?

For decades, inventors have tried to use whatever new tech is out there — sonar, ultrasound, GPS, artificial intelligence — to improve the function of the plain white cane.

Shlomi Hanassy knows all about that. About a decade ago, he was a student, working in a lab at the Hebrew University of Jerusalem on a device called the EyeCane.

It used infrared rays to detect obstacles within 5 meters, and communicated with users through sound and vibrations. It was a promising technology — previous devices were slow at detecting and communicating obstacles.

But the EyeCane "was fast," said Hanassy, who today owns his own technology research and development company in Jerusalem. "It was actually useful."

Hanassy's team showed that it took blind people less time to learn how to use the EyeCane than other devices. There was a lot of positive media coverage.

"It worked very well, and you can read a lot of articles that show that," Hanassy said.

But good press aside, many people who are blind are skeptical of technologies invented by sighted people like Shlomi.

Why do we need this?

Daniel Kish, who lives in Southern California, feels he has no need for a smart cane. He's been blind since he was a baby, when both of his eyes were removed because of a rare eye cancer called retinoblastoma. Very early on, he found his own way of getting around.

"I began clicking and developing my own form of sonar right after I lost my second eye," Kish said.

He started using echolocation, or sonar vision. He would make sounds — usually by clicking his tongue, but sometimes also snapping his fingers or clapping his hands. And he'd listen to how the sound came back to him to get the texture, size and shape of objects.

Brain scans have found that when people like Kish use echolocation in lieu of sight, they're actually using the visual cortex, the region of the brain that processes sensory information from our eyes.

"It'll reconnect and rewire itself to wherever it needs to, to gather the data it needs," Kish said.

Using echolocation, Daniel Kish is able to go on solo hikes, ride a bike and sketch a room after clicking his way around it. (Image courtesy of PopTech/Wikimedia)

In his late teens, Kish wanted to go more places and do more things. So he learned to use a cane. And that helped even more — echolocating helped him with objects at head and shoulder level, and the cane took care of what was at his feet.

"My perceptual system became a kind of seamless dynamic," Kish said. Today, he can sketch a room after clicking his way around it, ride a bike, and go on solo hikes. He's even hiked the Swiss Alps alone.

In 2000, Kish started a nonprofit, called World Access for the Blind, to teach more blind people his method of echolocating with a cane.

A big part of the technique is allowing the cane to become an extension of oneself. He compared the cane to a rat's whiskers.

"Rat's whiskers have certain qualities," Kish said. "They're very delicate, they're light, they're flexible, they're conductive. So we try to simulate that, if you will, with a cane. The lighter and more delicate the touch, the more information you're able to receive."

And that's one of Kish's main gripes with smart canes. He believes that when you start adding batteries, sensors and buttons, you start interfering with all that.

"One of the things that happens, of course, is you make the cane heavier, you change the balance of the cane," he said.

While a regular white cane might weigh half a pound, a smart cane can weigh more than twice as much.

Furthermore, all of the additional sound and vibratory cues can be distracting. And electronics make a cane more difficult to maintain: You have to charge it; the technology can malfunction; and now the device is susceptible to weather and dirt.

Most importantly, Kish worries that fixating on electronics will shift focus away from building a good foundation in orientation and mobility. He wonders if the resources spent on tech might be better spent on cane training that really nurtures the skills for independence that blind people already have. After all, these are the skills they'll always be able to fall back on.

Smart canes, he said, ignore the reality that "we can provide a kind of cane training that makes the cane basically a natural extension of the body, to where it is fluid and comfortable and, above all, effective."

It matters who the inventor is

There are others, like Kürşat Ceylan, who want a better cane. Ceylan is a social entrepreneur from Turkey and has been blind since birth. He believes people who are blind should use available technology to their advantage. After all, corporations aren't really thinking about visually impaired folks.

"Technology has advanced so much, but unfortunately this area is not seen so profitable for the big companies," he said.

Ceylan has worked on many different technologies for the visually impaired, including a media platform, a navigation tool for shopping centers, and an interface that provides audio descriptions for movies.

His latest project is WeWALK, a new smart cane. It ultrasonically detects overhead obstacles. It also integrates with a user's smartphone and syncs up with apps such as Google Maps or with Amazon's Alexa.

Kürşat Ceylon, a social entrepreneur from Turkey, led the development of the WeWALK, a new smart cane. Here he is using the WeWALK as he walks down stairs in an office. (Image via WeWALK/Kürşat Ceylan)

Ceylan said the effort arose from his own needs. "Do visually impaired people need improvements in their daily lives? Yes, I do," he said. "At least I do."

z

For example, Ceylan said, when he is waiting at the bus stop, he's always asking other people to let him know when his bus, #43, arrives.

"Also, while we are walking in the street, we don't know the name of the stores, or we don't know the color of the traffic lights. And these are the problems that we have to solve," he said. "Visually impaired people can be independent. We believe that."

Ceylan acknowledged the points some blind people make against smart canes.

"They're right," he said. "Visually impaired people have to develop their independence skills. And that's why they need the mobility training before using the cane."

He noted that smart canes are, indeed, heavier than regular canes. But if a heavier cane imparts more confidence and independence, one might "prefer the heavier cane," he said.

Kish, the echolocator, said it's promising that more blind people are leading tech development. That makes a world of difference, he said.

"Historically, a lot of these technologies were developed by sighted people — you cannot understand blindness from a sighted perspective," he said.

He added that sighted people make "guesses about not seeing, based on their understanding of seeing." And often, what fuels those guesses are stigma, dread and anxiety.

"Most people are afraid of blindness," he said. "They feel it's among the top four worst things that can happen to them, right alongside of terminal illness, cancer and such."

Much of the marketing around smart canes and other technologies preys on this fear, according to Kish.

"When you look at information that is presented around various technologies and devices, it very much emphasizes what the blind person cannot do, or won't be able to do. So there is a very much kind of 'we need to fix this' mentality," he said.

"I think that the whole perspective needs to be shifted from an assumption of deficit to an expectation of capacity," he added.

Remember Shlomi Hannasy? The inventor in Israel who was working on the EyeCane? He eventually learned this his own way.

During the time he was working on the EyeCane, while on a run one day, he happened to come across a cat on the street. He named the cat Zeevon, took it home with him, and soon realized the cat was blind. Since he was already working on EyeCane, he got to work making a wearable device that would detect obstacles for Zeevon.

But he quickly realized the cat didn't need such a gadget.

"As much as I wanted to help this cat, with time, I saw that it could manage by itself," he said.

When Shlomi Hanassy adopted Zeevon, a cat with no eyesight, he started to develop a sensory substitution device that would help the cat detect obstacles. But Zeevon soon taught Shlomi a bigger lesson. (Image courtesy of Shlomi Hanassy)

Zeevon was fine staying home alone. He deftly maneuvered around the furniture. He gracefully jumped from the kitchen counter to the top of the refrigerator.

The experience taught Hanassy a bigger lesson: that people who can see often miss the ways the blind adapt and develop their own ways of being in this world.

Sighted people don't know how it is to be blind, Hanassy said. "We cannot understand, usually, the other senses so well."

Hanassy believes that illustrates a broader problem with tech — that, too often, developers try to create solutions for others based on assumptions, without taking the time to understand people.

"They just develop the technology without considering what people really need," he said.

In the end, Hanassy ditched his efforts to make a device for his cat. And despite several years of development, the EyeCane never took off.

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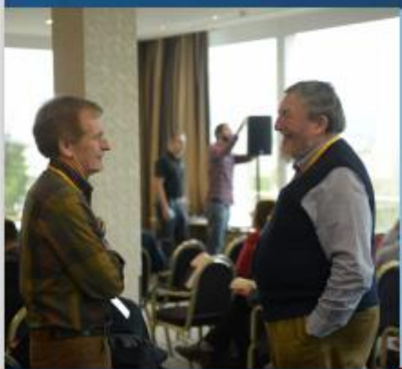
World Neuron Congress

November 26-27, 2018 Helsinki, Finland



Workshop (Day 1)

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Shlomi Hanassy, J Neurol Neurophysiol 2018, Volume 9
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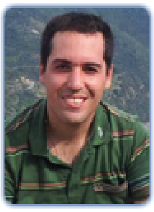
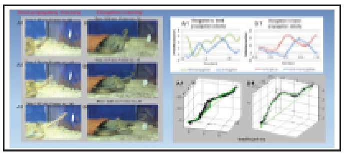


Shlomi Hanassy

Hanassy R&D Ltd., Israel

Introduction to octopus arm motor control neuro-biology and biomimetics

Octopuses where always a fascinating animals with their spectacular line of unique features. Here will review many of those features focusing on the arm motor control. Similar to tongue and the elephant trunk, the octopus arm is a muscle hydrostat, hyper redundant, structure. The computational process involved in the generation of a movement in such structure is a highlight for motor control engineers. During that process, a reduction of the motor control problem complexity is obtained by reducing degrees of freedom, using stereotypical motor primitives, which are simply modulated instead of calculated, to achieve the required movement. That principles inspired many robotic engineers to achieve new kind of control: embedded intelligence. Here we will present some results of such bio-robotic engineering and novel applications.



Development of techniques for extracting motor primitives of local movements.

Recent Publications

1. S Hanassy, A Botvinnik, T Flash, B Hochner (2015). Stereotypical reaching movements of the octopus involve both bend propagation and arm elongation. *Bioinspiration & biomimetics* 10 (3), 035001.
2. I Zelman, M Titon, Y Yekutieli, S Hanassy, B Hochner, T Flash (2013). Kinematic decomposition and classification of octopus arm movements. *Frontiers in computational neuroscience* 7, 60.
3. S Levy-Tzedek, S Hanassy, S Abboud, S Maidenbaum, A Amedi (2012). Fast, accurate reaching movements with a visual-to-auditory sensory substitution device. *Restorative neurology and neuroscience* 30 (4), 313-323.

Biography

Shlomi Hanassy is the owner and establisher of Hanassy R&D Ltd. IL. Shlomi is an algorithm developer and neurobiologist specialized in motor control and vision processing. He is also an inventor and experienced developer of several innovations in those fields. In 2011-2012 he worked as algorithm developer at Wellsens tech (http://www.wellsense-tech.com/), developing algorithms for pressure mat while serving as a consultant for the EU "Stiff-flop" project (http://www.stiff-flop.eu/). During 2007-2010 he was a Phd student and algorithm developer of visual substitution devises at Amir Amedi's lab for higher brain functions while serving as a co-worker in Benny Hochner's lab for motor control and at the EU "Octopus project" (http://www.octopusproject.eu/). Since 2007 Shlomi is holding an M.sc in medical neurobiology from the Hebrew University (Hadassah Ein Carem medical school) and a B.A in computer science and administration from the Open University of Israel (since 2003).

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סטודנטים מפתחים עזרי ניווט לעיוורים

באוניברסיטה העברית שבירושלים, עובדים צוותי סטודנטים מסורים על הפיתוחים הבאים עבור לקויי הראיה והעיוורים בארץ ובעולם. מה העתיד בתחום הניווט לעיוור? הכתבה מלווה בקריינות

שחר שושן פורסם: 06.06.13 , 07:54

פיתוחים מיוחדים
צילום: שחר שושן

שתף בפייסבוק · הדפסה · שלח כתבה · תגובה לכתבה

בעולם ישנם כ-300 מיליון עיוורים, מתוכם כ-30 אלף בישראל. למרות שעשרות פיתוחים טכנולוגיים מסייעים ללקויי הראייה להתמודד בעולם של הרואים, עדיין לא קיים פתרון ניווט יעיל ואמין שיוכלו לסמוך עליו, שאינו בולט לסביבה. מתוך מגוון הפרוייקטים שפותחו באוניברסיטה העברית, בחרנו שניים המיועדים במיוחד לסיוע לאוכלוסיית לקויי הראייה והעיוורים.

פיתוחים לעיוורים באוניברסיטה העברית (צילום: אבי פרץ, עריכה:...

להאזנה לכתבה לחצו על הנגן

הרדאר השקט

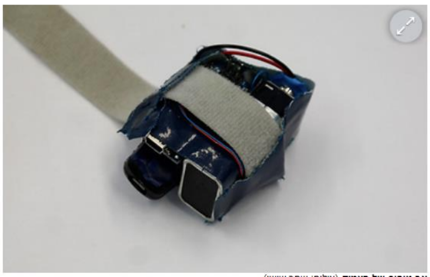
לקויי ראייה ועיוורים לרוב מנווטים ברחוב בעזרת מקל או כלב נחייה, ולעיתים גם בעזרת אדם נוסף שמסייע להם. יוצרי פרויקט "הכוונת הדרכים" מבקשים להוסיף עוד פריט צנוע כדי לסייע במציאת הדרך - צמיד הרוטט בהתאם לכיוון שאליו מי שעונד אותו, צריך להגיע.

מטרת הפרויקט: לסייע ללקויי ראייה ועיוורים להגיע מנקודה א' לנקודה ב' בעצמאות מירבית ובלי למשוך תשומת לב מהסביבה אל המכשיר.

מי בנה ומי עשה: יזם הרעיון ומנחה הפרויקט - שלמה הנשיא מהנשיא מחקר ופיתוח בשיתוף עם ד"ר אמיר בן שלום ממוזיאון המדע, ובפועל בנו אותו הסטודנטים נדב יוסף חסידים וליאור רז מהחוג להנדסת מחשבים באוניברסיטה העברית.

בקרוב בשוק

עם עלות ייצור של כ-400 שקל ושימוש ברכיבים מהמדף, ייתכן שהצמיד הרוטט יהפוך למוצר מסחרי, אך כרגע המכשיר נמצא במצב אב-טיפוס והדרך עוד ארוכה עד שיהיה מוצר מסחרי. בינתיים אומר שלומי, הוא חושב עליו לשימוש דווקא צבאי כדי לנווט חיילים בחושך ובדממה.



אב טיפוס של הצמיד (צילום: שחר שושן)

כך זה עובד

המכשיר בנוי מצמיד המקושר בבלוטות', טלפון אנדרואיד ואפליקצייה ייעודית שאותה כתבו הסטודנטים. דרך הזיהוי הקולי המובנה במערכת האנדרואיד, המשתמש שולט באפליקציה ובוחר את הפעולה הרצויה. אם יבחר למשל ביעד חדש, תשאל אותו המערכת לאן הוא רוצה להגיע. המשתמש יגיד בעברית את היעד והמערכת תכוון את המפה של גוגל מפות, בהתאם לנתיב הייעודי להולכי רגל הקיים באזור. האפליקציה מאפשרת כבר בשלב זה לשמור מיקומים חשובים כמו בית, משרד וגם בית קפה, כך שניתן לצאת לדרך במהירות.

המעבדה שבה המכשיר פותח (צילום: שחר שושן)

תוכנת הניווט מחלקת את נתיב ההליכה לנקודות יעד קצרות, ומכוונת את המשתמש לנקודת היעד הבאה הקרובה ביותר. האפליקציה בודקת את מיקום המכשיר דרך ה-GPS, המצפנים המובנים, ואפילו רשתות Wi-Fi כך שהיא יכולה לדעת בדיוק היכן המכשיר נמצא ברדיוס של 3 מטרים אפילו בתוך מבנה. מרגע שהוגדר היעד יתחיל הצמיד לרטוט בהתאם לכיוון. אם המשתמש עומד עם הפנים לכיוון הלא נכון ביותר, כלומר 180 מעלות ליעד, הצמיד ירטט בעוצמה המקסימלית, ככל שהוא פונה יותר לכיוון הנכון - כך הרטט נחלש. מעין משחק חם-קר שכזה.

יש צורך

מראיונות וניסויים שערכו המפתחים עם אחת הסטודנטיות העיוורות באוניברסיטה, הם הבינו שאחת הנקודות החשובות ביותר היא לא למשוך תשומת לב. לדבריה מכשירים בולטים ומסורבלים גורמים להם להרגיש קצת כמו חייזרים, לכן רצוי שהמכשיר יהיה כמעט בלתי נראה.

קינקט לעיוור

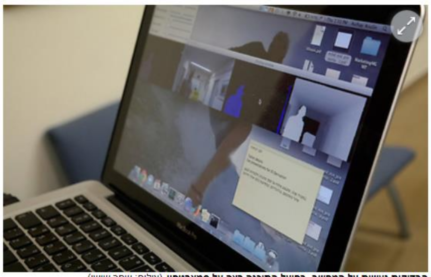
פרוייקט נוסף מהאוניברסיטה העברית התחיל בגלל חבר עיוור ביחידה הצבאית של אחד המפתחים, וגדל לפרויקט גמר של שלושה סטודנטים השואפים לתת לעיוורים דרך לשמוע את מה שאנחנו רואים.

מטרת הפרויקט: מתן ראייה מרחבית לעיוורים ותחליף למקל וכלב נחייה.

לוח הביגלבורד ארוז בתוך קופסה שהודפסה במדפסת תלת ממד (צילום: שחר שושן)

כך זה עובד

המערכת בנויה מאפליקציה, סמארטפון שמריץ אנדרואיד, לוח ביגלבורד, שדומה לארדואינו - מעיין לוח אלקטרוני שניתן לתכנת, אוזניית בלוטות' ומצלמת תלת ממד שדומה לקינקט של מיקרוסופט. המצלמה ממוקמת בגובה המותניים כדי לא למשוך תשומת לב וגם כדי שלא יהיה צורך לסובב את הראש אל כל דבר שרוצים לזהות. המערכת דמוית הסונאר משתמשת ביחידת צילום של אסוס כדי לסרוק את הסביבה בתלת ממד. היחידה כוללת מצלמה דו מימדית רגילה, ובנוסף חיישן של חברת פריימסנס הישראלית המוסיף את יכולת זיהוי העומק שהיא הבסיס לפיתוח.



הבדיקות נעשות על המחשב, בפועל התוכנה רצה על סמארטפון (צילום: שחר שושן)

התוכנה משתמשת במידע מהחיישן ומפיקה את ציר העומק - הציר שאומר מה קרוב ומה רחוק מהמשתמש. את כל המידע הזה, צריך לתרגם לחוש אחר, שכן יש לעיוור. התוכנה (וגם אפליקציה לאנדרואיד) סורקת משמאל לימין את התמונה ומשמיעה צליל בהתאם לסביבה: צליל נמוך מציין אובייקט רחוק, וצליל גבוה מסמן אובייקט גבוה. צבע האובייקט נקבע על פי סוג הכלי, למשל צהוב זה חצוצרה.

Please call or contact us for more information!

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