"Placing the power of the metabolic lab in the palm of the hand"

PROVECTUS Telehealth

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Simpli-Fi Automation

"You can only improve what you can measure"

-Peter Drucker

PROVECTUS Telehealth

The biggest challenge in providing comprehensive remote health care...

You can't bring the medical lab to the home.

PROVECTUS Telehealth

PROVECTUS Lab-on-Chip technology:
Hand-Held Breath Analysis System

- Non-invasive metabolic chemical analysis without visiting a medical lab.

- Measures Volatile Organic Compounds in exhaled breath to provide medical diagnosis.

- Deploys proven NASA Electronic Nose Sensor Technology (e-Nose) combined with artificial intelligence to provide early screening for disease and empower preventative care.
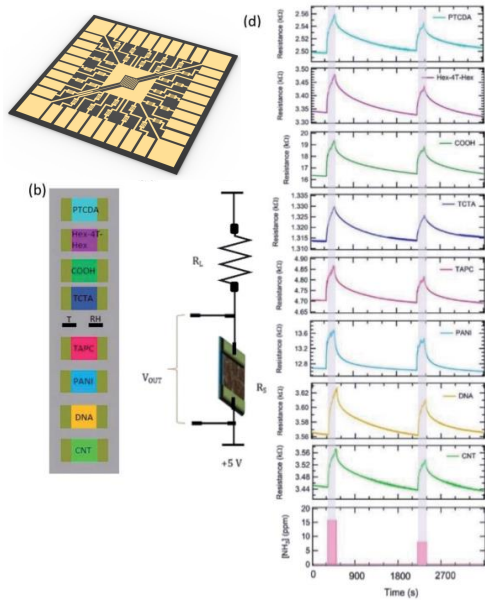
PROVECTUS Telehealth

Fig. 1 (a) Single sensor layout; (b) sensor array layout. (b) *T* and *RH* represent the temperature and relative humidity sensors, respectively (c) single sensor readout scheme. (d) Resistance change *vs.* time measured by the eight sensors array during exposure to two different ammonia concentrations: 15.9 ppm and 8.1 ppm, respectively. Exposure time was set at 180 s.
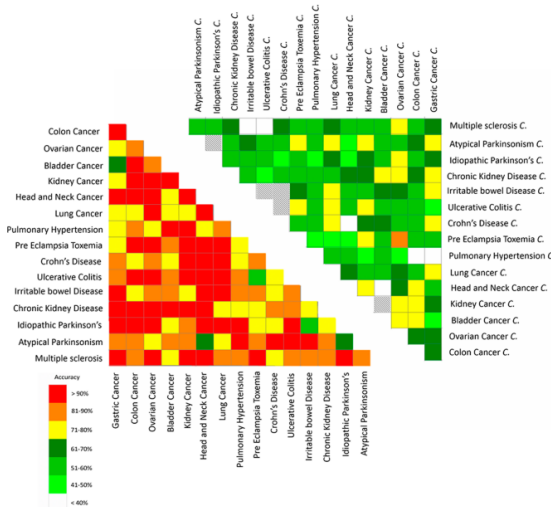

Figure 3. Graphical presentation of the accuracy of the binary DFA classifiers. Each box represents the accuracy achieved in a blind validation of each pair of subject groups. The left heat map gives the results of comparisons between groups of patients, whereas the graph on the right gives the results of the same classifiers applied to the corresponding control groups. The average accuracy was 86% for all disease classifiers (left graph) and 58% for the corresponding control groups (right graph). The letter "C" beside each disease named in the right figure means the "control" group relates to that specific disease.

- Our single-walled carbon nanotube (SWCNT) sensor is used to analyze and detect specific chemical biomarkers in a person's breath. The sensor is designed to interact with the volatile organic compounds (VOCs) and inorganic gases present in the breath, which can provide valuable insights into various diseases.
- The SWCNT sensor array is capable of detecting and measuring the concentration of these biomarkers through their interactions with the nanotubes. By analyzing the response of the sensor array to different biomarkers, clustering and classification algorithms can be used to identify patterns and distinguish between healthy individuals and those with specific diseases, such as chronic obstructive pulmonary disease
- Breath biomarker technology refers to the use of non-invasive methods to analyze and detect specific compounds or molecules present in a person's breath that can serve as indicators of various diseases or physiological conditions. These biomarkers can include volatile organic compounds (VOCs), non-volatile metabolites, proteins, DNA, and viral pathogens. The analysis of breath biomarkers can provide valuable insights into biochemical activities in the body, including metabolic processes and environmental effects.
- The goal of breath biomarker technology is to enable early disease detection, precision medicine, and monitoring of respiratory illnesses in a non-invasive and accessible manner.
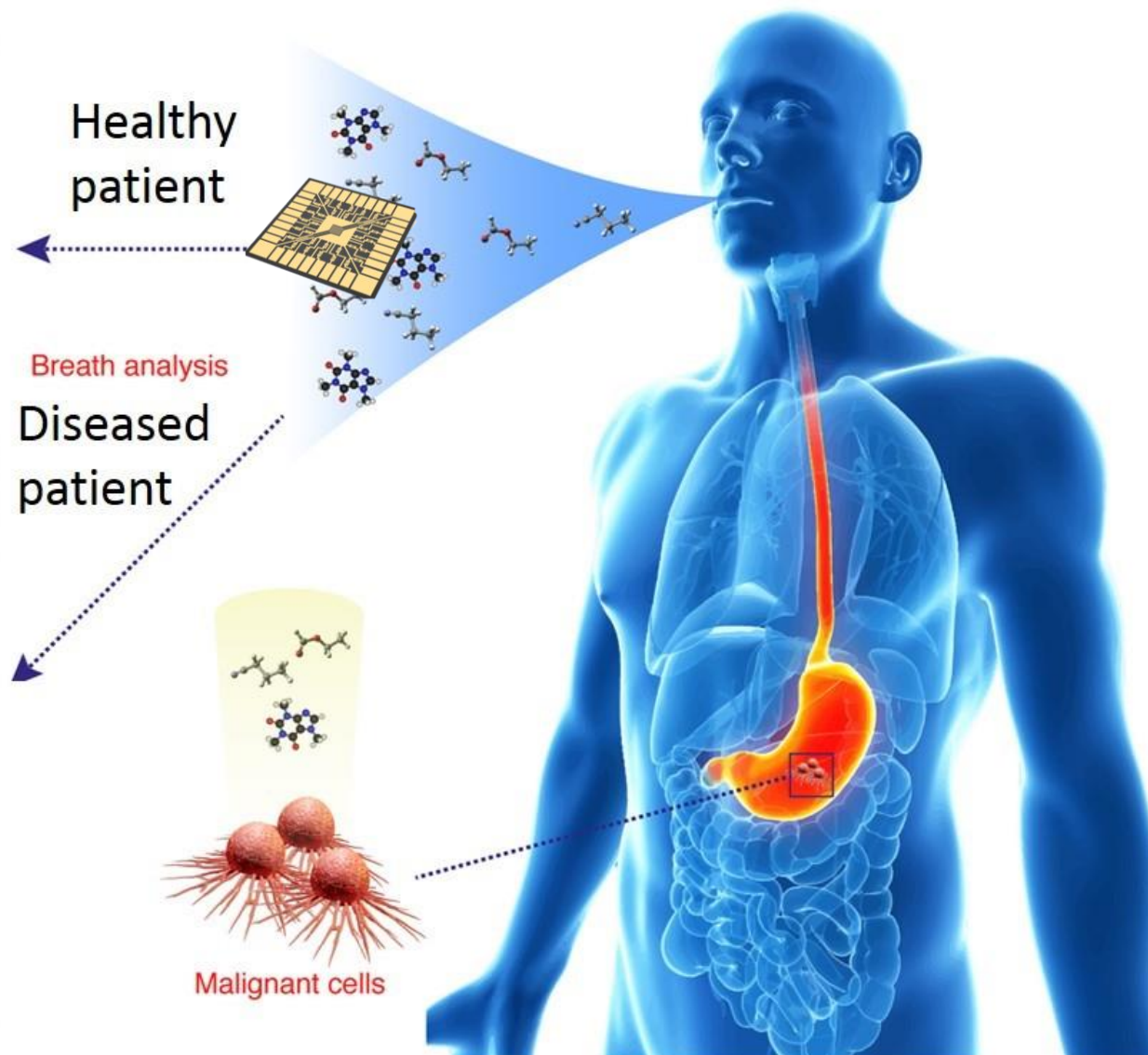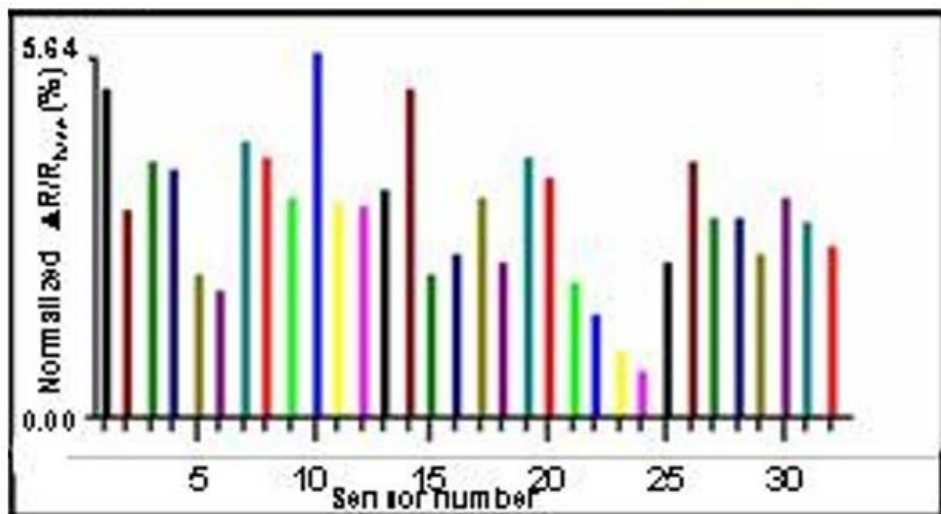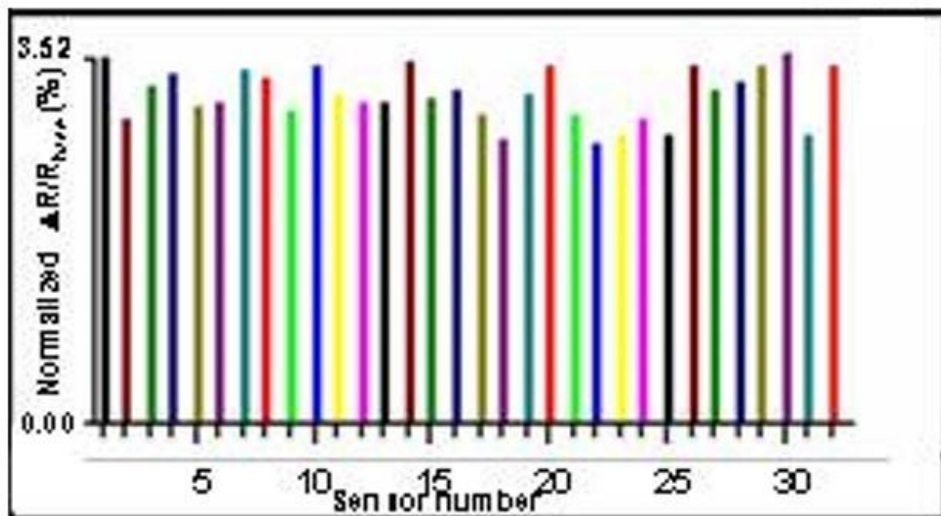
- Crohn's Disease
- Ulcerative Colitis
- Colorectal Cancer
- Ovarian Cancer
- Bladder Cancer
- Prostate Cancer
- Kidney Cancer
- Prostate Cancer
- Gastric Cancer
- Lung Cancer

- Irritable bowel disease
- Idiopathic Parkinson's
- Atypical Parkinson's
- Head and Neck Cancer
- Multiple Sclerosis
- Pulmonary Hypertension
- Pre-Eclampsia Toxemia
- Digestive Health (fermentation rate)
- Metabolic Rate (energy depletion)
- Metabolic Function (fat content/usage)

ONE CHIP, COUNTLESS APPLICATIONS.

Agscent Breath: Provides Breath Diagnostics for livestock and dairy productivity.

Provectus Canary, an environmental monitoring system for hospital-transmitted disease.

Caerus Strength, a wearable patient recovery monitor. Worn by patients as they exercise and perform strength training while in medical recovery. Integrates the Provectus biomarker sensor for sweat analysis.

Onedrus: An Industrial Heating and Airconditioning Filter company that integrates our sensor into an automated Building air filtration process.
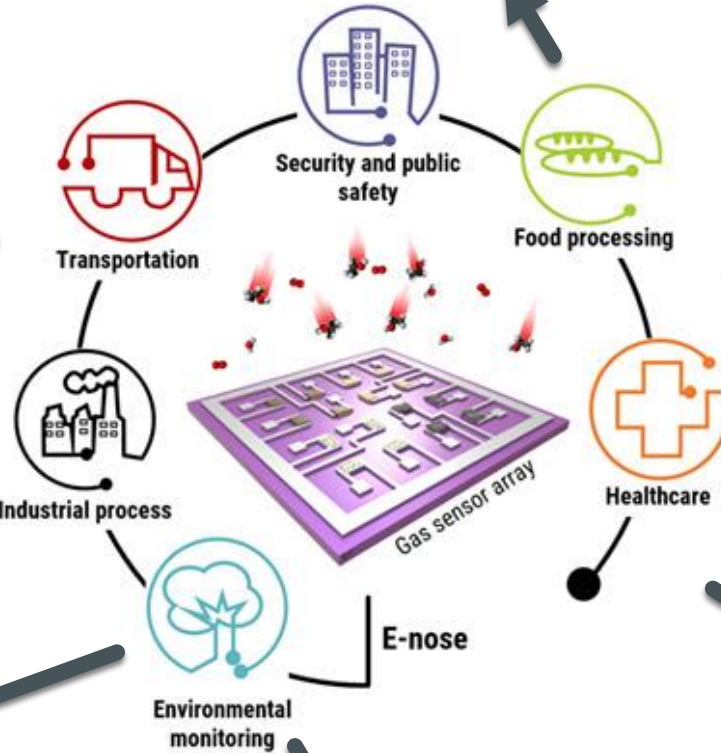
Provectus Telehealth, a hand-held breathalyzer that uses e-nose breath biomarker technology to provide at-home health care and early disease screening.

Samsung Mobile: Direct integration of the Provectus sensor chip into the Samsung Galaxy smart phone. Unlocking the electronic sense of smell by measuring VOC's in the breath, gases in the environment, and even the quality of your food.

Agscent Air: Provides Methane reduction thru flock monitoring and selective breeding.

Molekule Air Filtration: provides FDA-approved air filtration and air quality monitoring. Integrates the Provectus Sensor for molecular ambient air analysis.

Transportation

Security and public safety

Food processing

Industrial process

Healthcare

Environmental monitoring

E-nose

Gas sensor array

PROVECTUS **Telehealth**

We are the ONLY US-based manufacturer of commercially available carbon nanotube sensors.

- Our manufacturing facility provides white-label Carbon Nanotube sensors for many industries. We provide the only source of SWCNT sensors that are made completely in the US.

- Our development lab opening in 2024 will be capable of manufacturing over 600k chips per year.

- Our high-volume manufacturing Facility opening in 2025 will be capable of manufacturing 3m chips per year.
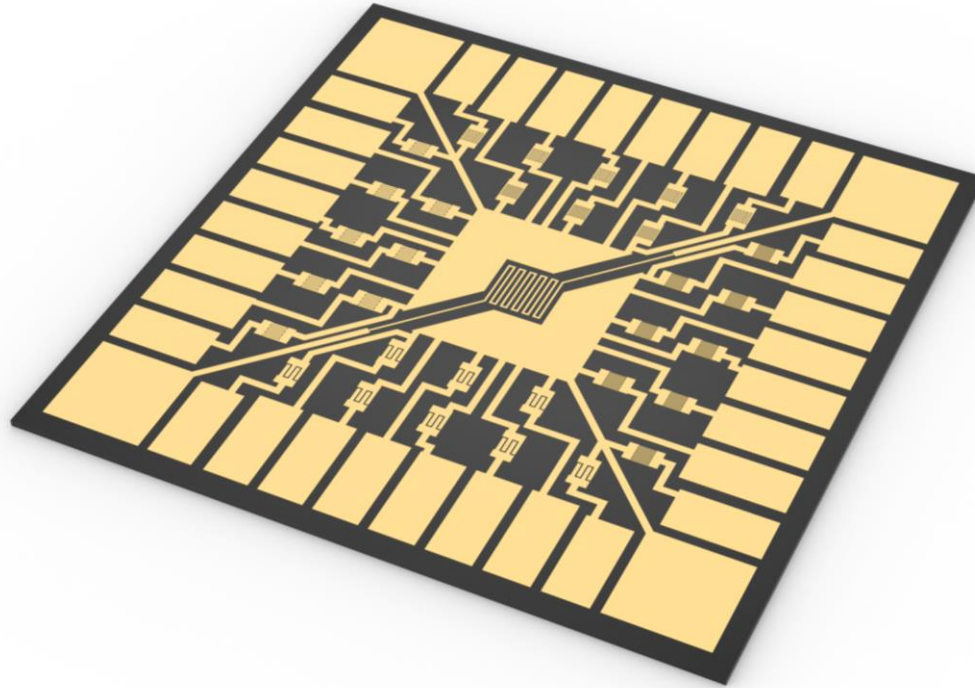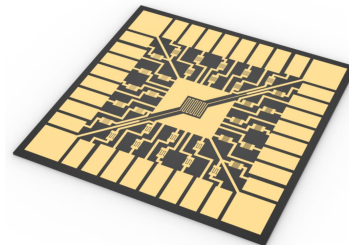
- Our custom-fabricated sensors can be chemically functionalized to detect any range of molecules for a wide range of industrial use.

- Our sensors provide both thermal and non-thermal reset and room temperature operation.

- We create custom electronics and software packages for our white-label partners. We license use of the Provectus sensor for specific applications to our strategic partners.

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Automation

Application research development program

- Preliminary proof of concept and integration design for use-specific application.
- POC Program cost is $300k. Payable as $50k/mo for a 6-month development program.

- Deliverables: (5) prototype sensors mounted on ceramic chip carriers, bonded to our custom PCB with basic firmware and I2C terminal. Includes bench testing report (for 4 gases), and 20 hours of integration support. *does not include hosting or data analysis*

- Estimated cost of full sensor development with custom chemistry is between $1.2M and $2.6M.
- The full development program timeline is 18 months.
- License fee waived for POC program participants.
- Simpli-Fi retains all manufacturing rights for the sensor.
- Sensor's data analysis and AI service requires a monthly subscription fee for activation.
- Project enrolment requires a letter of commitment and a $50k deposit payment.

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5 Year Proffit and Loss Projection

Legend: Revenue, Expenses and costs, Profit
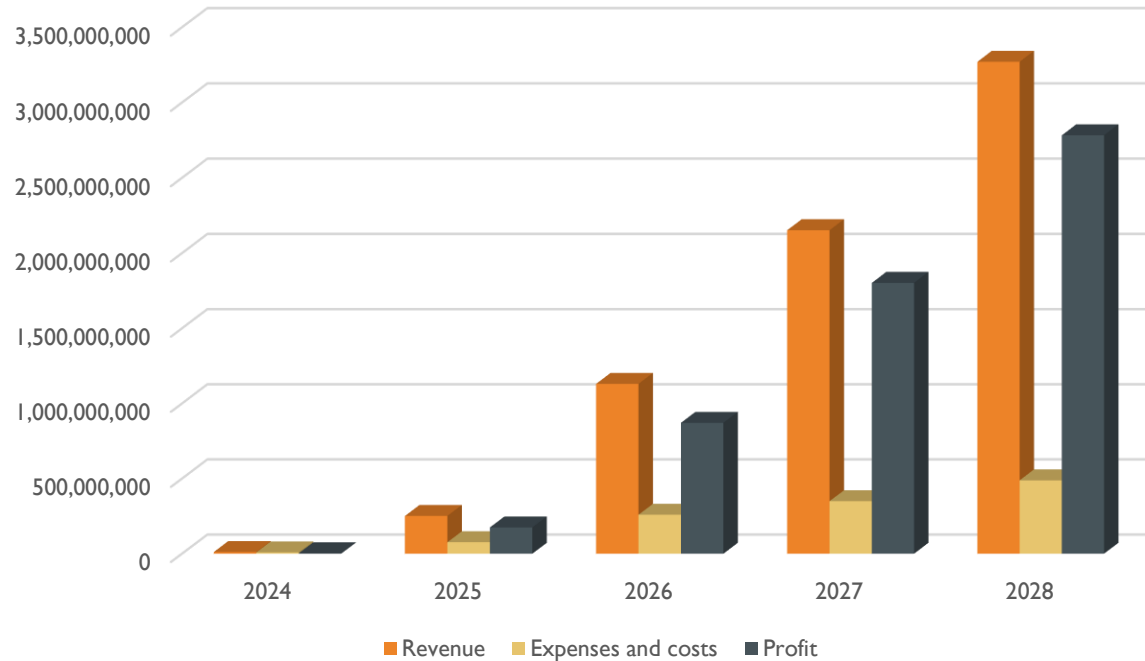
Total Telehealth Market Size: 2022 — *$48,000,000,000*

Addressable Market Size: US Telehealth Equipment Peripherals (2021): — *$2,275,000,000*

Telehealth Industry CAGR: for years 2022-2030 — *27%-41%*

User Base Size (who currently use telehealth devices and/or kits): 2023 — *25,500,000/year*

Retail Market Volume: (2023) 25,000,000 total users X 30% PR X .5% MS= — *3,750,000 users*

Military Contracts: active and reserve military soldiers covered over 36 months — 3,100,000 users

Chris Campbell: Mr. Campbell is the founder and CEO of Simpli-Fi Automation, an electronic systems engineering firm. Chris has over 25 years proven experience in technology convergence with a focus electrical systems automation and engineering. Within those 25 years, he served as operations and sales manager for several of the nation's largest electronic systems integration firms. As well as being a nationally recognized electrical systems integration engineer, Mr. Campbell has a bachelors degree in Theology and a passion for healthy communities, both in body and spirit.

MEET THE ADVISORY BOARD

Dr. Alon. Ben-Ari
Dr. Ben-Are is former acting CMIO, ACOS Clinical Informatics officer for the Veterans Administration Northern California Health Care System. He serves as our artificial intelligence director and key advisor.

DJ Dozier.
Mr. Dozier has over 24 years of business development, marketing, and business strategy experience. Mr. Dozier is a former All Star Pro Athlete having played in the NFL with the Minnesota Vikings and the Detroit Lions and the MLB with The new York Mets.
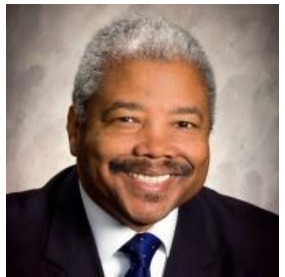
Dr. Olester Benson, Jr.
Dr. Benson served for 33 years as technical leader and corporate chemist at the 3M Corporate Research Process Laboratory. He also served as Master Sergeant for the US Army. Dr. Benson is advising process innovation with a focus on chemical engineering.

Jerome Hamelton
Mr. Hamelton is the former vice president of 3M Manufacturing. He also held the position of Senior Vice President of Global Operations of Stratasys. Mr. Hamilton oversees manufacturing strategy.

Dr. Timothy Campbell
Dr. Campbell is the current Clinical Service Quality Director for Kaiser Permanente, Northern California. Dr. Campbell serves as the Provectus medical team leader, project compliance officer, and directs FDA approval efforts.

Amelia Hardy
Amelia is currently Chief of Inclusion, Diversity, and Talent Acquisition Officer at Best Buy. Amelia serves as a board member as well as business strategy consultant for Simpli-Fi.

Chris Dykstra
Mr. Dykstra is the founder and CEO at Warecorp and Good Carts. Chris serves as our advisor in Artificial intelligence, Machine Learning and Software applications.

Johnny Cator
Experienced Chief Technology Officer with a demonstrated history of working in the health wellness and fitness industry. Skilled in Entrepreneurship, Customer Relationship Management (CRM), Strategic Partnerships, Team Building, and Public Speaking. Strong information technology professional with a passion to use technology to make the world a better place for all.

MEET THE TEAM LEADERS

Hamza Baig

Mr. Baig is the Senior Design Engineer. Hamza is responsible for 3D design and rendering. In addition, he provides electrical and mechanical expertise.

Dr. Daniel Osewe Vashy

Dr. Vashy is the senior staff manager and product development administrator for the East African development team.

Faran Saleem

Mr. Saleem is our Senior Industrial Designer. Faran serves as our director of prototyping. He is responsible for improving the look, feel and ergonomics of the device.

Mussab Mehboob

Mr. Mehboob is the Senior Programming Engineer. Mussab is responsible for software development, API design, systems testing, and validation. He also provides electrical and mechanical support.

Lauren Kelly

Lauren Kelly is the software project manager and is responsible for managing daily development and production of software and integration systems.
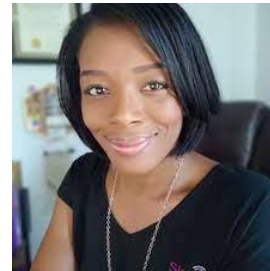
Latresha Campbell

Mrs. Campbell is the lead UAT engineer. Latresha is responsible for ensuring the software user interface is a seamless and easy to use. She is responsible for ensuring the quality and predictability of the end user experience.

Tea Campbell

Tea is our senior data analyst and is responsible for managing the various data collected during the development and testing process. She also oversees the flow of production and serves as scrum master.

Tammie Bennet

Tammie is chief of staff and quality control manager. She is responsible for coordinating between the development teams and project stakeholders. Tammie is responsible for insuring product-market fit.

COLLABORATION PARTNERS

THANK YOU!

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We appreciate your interest in Provectus Telehealth.

Provectus Mobile Medical Diagnostics - YouTube

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