

# Andrew Brimer

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**Andrew is a patented inventor, seasoned entrepreneur, engineer, and product manager seeking collaborative, high-value opportunities.**

Andrew co-founded Sparo Health, a digital health & medical technology company focused on building solutions for people with respiratory conditions, such as Asthma and COPD. Andrew led the design, development, and hardware manufacturing of Wing® (<https://mywing.io>), the first FDA-cleared smartphone sensor + app to measure lung function. Andrew and his team later expanded the company's offering to include Lift Pulmonary Rehab (<https://liftclass.com>), an online, video-based fitness, education, and rehabilitation platform for people with COPD.

Andrew has been named to Forbes "30 Under 30" and received a highly competitive Arch Grant. He has presented his work at the United Nations in NYC, the Cleveland Clinic, the University of Oxford, and The White House. Andrew is a patented inventor and has been published in peer-reviewed journals on the subject of soft nanomaterials. He holds a B.S. in Mechanical Engineering & Materials Science from Washington University in St. Louis. Andrew is also an avid musician and composer—proficient in piano, trombone, ukulele & Logic Pro. He currently lives in St. Louis, MO.

## Project Manager & Scrum Master

2020 - Present

*Washington University in St. Louis (St. Louis, MO)*

- Successfully led team to develop 10+ Workday integrations for key School of Medicine software applications to replace legacy HR & Finance systems
- Managed delivery of 50+ software development projects, leading cross-functional teams from discovery through implementation across dozens of university software applications
- Led cross-functional Scrum team of 15+ with multiple sub-teams for effective prioritization and delivery
- Facilitated Scrum ceremonies, planning, tracking, and coaching in Agile/Scrum methodologies
- Collaborated closely with developers on technical design and issue resolution, while effectively translating into clear, meaningful communication for customers and leadership.

## Co-Founder, CTO

2013 - Present

*Sparo Inc. (St. Louis, MO)*

- Founded a digital health startup focused on innovative patient solutions to improve respiratory care
- Formed & communicated the company's vision, strategy, and objectives; presented publicly at the United Nations, the Cleveland Clinic, and the White House
- Set up and managed all electrical engineering, industrial design, DFM, manufacturing, and supply chain operations to produce 1000+ units of an FDA-cleared medical device
- Built and maintained relationships with investors and strategic partners; raised \$3m+ in venture capital & grants; modeled financial projections & budgets
- Hired, trained, managed, & developed new employees & contractors in various roles

## Product Management / Strategy

- **Wing®** - led team to achieve the first FDA-cleared (OTC) smartphone sensor + cloud-connected app to measure lung function (<https://mywing.io>).
- **Lift Pulmonary Rehab** - led team in building a video-based education & rehabilitation program for people with COPD & seniors with limited mobility (<https://liftclass.com>).
- Directed digital marketing operations, analysis, & optimization (*Facebook & Google Ads*)
- Relevant Skills: *Jira, Confluence, Github, Trello, GSuite, Excel, InVision, Public Speaking*

## Software Architecture & Development

- Built & helped maintain Lift Pulmonary Rehab website & Wing landing page
- Developed v1.0 of Lift video-based subscription web app (*Firebase, Node.js, NoSQL*)
- Managed development for v2.0 of Lift Pulmonary Rehab web app (*Firebase, Node.js, NoSQL*)

- Managed integrations with a number of 3rd party APIs & services: *Stripe, PayPal, Sentry, Mailchimp, Typeform, Calendly, Zoho, SurveyMonkey, Twilio*
- Relevant Skills: *HTML, CSS, Javascript, jQuery, Node.js, React.js, Github, Firebase, NoSQL, REST, AWS*

### **Product Design**

- Led the design of both Wing® and Lift Pulmonary Rehab websites & apps
- Collaborated with multiple 3rd-party designers & firms to plan, execute, & adapt design assets
- Managed user research & patient interviews to hone user personas & requirements
- Analyzed customer feedback to iterate on UI/UX to increase usability for older populations
- Relevant Skills: *HTML, CSS, Javascript, InDesign, Photoshop, Illustrator*

### **Research Assistant - Soft Nanomaterials Lab**

**2011 - 2013**

*Washington University in St. Louis (St. Louis, MO)*

- Worked under Dr. Srikanth Singamaneni & Dr. Abdennour Abbas
- Performed fundamental & applied research focused on molecular self-organization
- Designed a foundational microfluidic, paper-based, plasmonic sensor platform

### **Research Assistant - Stable Isotope Biogeochemistry Lab**

**2011 - 2012**

*Washington University in St. Louis (St. Louis, MO)*

- Processed, extracted, and purified samples for isotope analysis and experimentation.
- Performed chemical experiments on carbon, nitrogen, and sulfur stable isotopes to understand biological cycling and large-scale ecosystem dynamics.

### **Education:**

Washington University in St. Louis - School of Engineering  
B.S. in Mechanical Engineering & Materials Science,  
Minor in Energy Engineering; GPA: 3.5/4.0

**2009 - 2013**

### **Awards & Recognition:**

- Forbes 30 Under 30, Healthcare Category (*Forbes, 2018*)
- Received the first-ever FDA clearance for a smartphone sensor that measures lung function (*FDA, 2016*)
- Most Innovative Medical Company (*St. Louis Business Journal, 2015*)
- Arch Grant Winner (*Arch Grants, 2014*)
- CIMIT Technology Prize for Primary Care, 1st Place (*CIMIT, 2013*)

### **Presentations & Public Speaking:**

- Guest Lecturer for **Washington University School of Engineering** J-Term Program (*WUSTL, 2016-2019*)
- Presented at the first ever **White House Demo Day** (*President Obama, 2015*)
- Presented at the **Cleveland Clinic** (*Cavendish Global Health Impact Forum, 2015*)
- Presented at the **United Nations HQ** in NYC (*Cavendish Global Health Impact Forum, 2014*)

### **Patented Inventions & Intellectual Property:**

- Utility Patent, Primary Inventor on US Patent #: **US9706946B2** (*USPTO, 2018*)
  - "Systems and methods for measuring airflow, which may be used to monitor or assess respiratory function—including a flow meter in communication with a computing device executing one or more applications to process and analyze data generated by a fluidic oscillating spirometer"
- Design Patent, Primary Inventor on US Patent #: **USD820447S1** (*USPTO, 2017*)
  - Design patent covering the physical embodiment of the Wing hardware sensor

### **Academic Publications:**

- ***“Vesicle-mediated growth of tubular branches and centimeter-long microtubes from a single molecule.”*** Abbas A, Brimer A, Tian L, d'Avignon DA, Hameed AS, Vittal JJ, Singamaneni S. *Small*. 2013 Aug 12;9(15):2611-8, 2477. doi: 10.1002/smll.201202509. Epub 2012 Dec 16.
- ***“Multifunctional analytical platform on a paper strip: separation, preconcentration, and sub-attomolar detection.”*** Abbas A, Brimer A, Slocik JM, Tian L, Naik RR, Singamaneni S. *Analytical Chemistry*. 2013 Apr 16;85(8):3977-83. doi: 10.1021/ac303567g. Epub 2013 Mar 11.