Company Overview

Animotion LLC designs affordable wearable devices that enable patients to track recovery from musculoskeletal injuries. This data can be used by physicians to remotely evaluate a patient's recovery rate, assess the effectiveness of a rehabilitation program, and suggest changes to expedite recovery. Compared to existing solutions, our device is small, portable, and inexpensive.

Problem

Musculoskeletal joint disorders commonly affect the elderly, athletes, and workers employed in occupations at high risk for work-related injuries. Rehabilitation from joint injury typically requires long-term physical therapy (PT), where a physical therapist measures the joint's mobility over time to assess recovery. However, this process is expensive and time-consuming. Wearable devices that allow for wireless transfer of data to physical therapists have the potential to reduce costs associated with PT visits and improve patient rehabilitation with self-monitoring capabilities. However, the wearable device market is not served well by existing technologies. Devices from BioSensics and MediTouch are expensive, bulky, and limited to specific parts of the body like arms or legs.

Solution

Animotion's solution is a wearable device that allows patients and healthcare providers to monitor joint function and recovery, particularly in the context of physical therapy but also for other applications such as clinical trial research and athletic performance. This small device is worn over the articulating joint of interest (e.g., knee) and allows for full range of motion. Joint kinematics, such as degrees of flexion, extension, and rotation, will be calculated to assess joint mobility. Data is wirelessly transmitted to a central database to allow remote, real-time 3D visualization and analysis of joint motion, permitting inexpensive, non-invasive, and objective monitoring of patients. The most compelling advantages are the portability (small enough to be incorporated into standard orthopaedic braces), utility (can be used for any hinge joint), and low price of our device (hundreds of dollars) compared to currently existing devices that range from one to over ten thousand dollars. Furthermore, real-time feedback and remote monitoring of kinematic data will allow our product to reduce the frequency of PT sessions and healthcare visits, saving time and money for patients and healthcare providers.

Founder Information

Laura Taddie, CEO, brings 13 years of leadership in global medical product management, product development, consumer research, and quality, regulatory, P&L, market development and M&A. Please contact Laura at grato@gratoforgrowth.com.

Feini (Sylvia) Qu is a VMD-PhD combined degree candidate, co-inventor of the technology and oversees prototype development and testing. Please contact Sylvia at feini@vet.upenn.edu.

Peter Gebhard is a senior programmer in the PRECISE Center in the Department of Computer and Information Science, co-inventor of the technology and is in charge of hardware and software development. Please contact Peter at pgeb@seas.upenn.edu.

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