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EXPERIENCED MECHANICAL R&D ENGINEER

SUMMARY:

A mechanical design expert with a reputation for practical-minded innovation, most recently in the medical diagnostics and device industry.

- Understanding of and experience in the cradle-to-grave product development cycle.
- Comprehensive understanding of diabetes care-related issues.
- Key contributor or subject matter lead on domestic and international R&D teams.
- Specialization in the design of robust and manufacturable hand-held and body-worn devices.
- Proven success in work environments ranging from Fortune 100 to tiny startup companies.
- Self-motivated, detail-oriented team player.

TECHNICAL EXPERTISE:

- Medical device and diagnostics
- Clinical trial support
- FDA-regulated environments
- Technical leadership/mentoring
- IP generation and analysis
- Verification & Validation
- Molded plastic part design
- Pro/Engineer (WF4) and Solidworks (2010)
- Product concept development and layout
- Mechanical part design and analysis
- Documentation and change control
- Innovation strategies, methods, and tools
- Light mechanism design and analysis
- Metal parts design

PROFESSIONAL EXPERIENCE:

Mechanical Engineering Consultant (contract)
Lifescan, Inc.: Medical Diagnostics & Devices; Milpitas, CA; 2010 to present

Key contributor to quality improvement projects for several new and existing high volume diabetes care products by developing concepts, performing engineering design and analysis, and providing recommendations for changes as part of the company's continuous improvement process.

- Enhanced mechanical durability of an existing pump controller/glucose meter by studying device failure modes, developing several options, performing FEA analyses, reporting the results, and contributing to the decision on which improvements to implement. Efforts spanned the globe and the resulting improvements surpassed requirements, allowing closure of a long-standing CAPA.
- Investigated product complaints, discovered the relevant failure modes, prototyped, tested and recommended several mitigation strategies for a recently launched lancing device. Worked with global supply chain management to determine the best strategy for implementing the matrix of resulting changes.
- Designed a low-cost retrofit mechanical solution to enhance the user experience in a popular blood glucose meter. Explored several design alternatives and created variations based on input from marketing, quality, and operations to find the "best" solution. Released the design for high-volume tooling and developed a test plan to confirm performance.
- Developed and investigated the feasibility of several new strip vial concepts for enhancing the user experience while meeting strict cost and manufacturing criteria. Concepts had to meet or exceed existing packaging and performance requirements.

Staff Engineer
Roche Diagnostics, Diabetes Care: Medical Diagnostics & Devices; Palo Alto, CA; 2002 to 2010

Conceived, investigated and prototyped a variety of new technology options for novel diabetes care devices and disposables as a member of the company's Technology Incubator.

- Contributed to the company's IP position in the Type 2 diabetes space by innovating specialized devices, disposables, systems, and services which addressed the specific needs of Type 2 diabetics.
- Advanced the company's knowledge of automated bG testing by leading the mechanical design of a clinical device to test a meter concept based on the AccuChek Mobile meter.
- Expanded the company's insulin pump expertise by investigating the suitability of new technology options for insulin pump drive systems including shape-memory-alloy and piezo-based actuators as well as by leading a physiology research project to measure in-vivo infusion pressures.
- Documented project results: authored or co-authored a total of 14 technical reports and presented the findings in global technology management review meetings.
- Developed an algorithm for the prediction of lancing success based on differences in lancet gauge, tip geometry, and depth of penetration.

Senior Mechanical Engineer
Amira Medical: Medical Devices (startup); Scotts Valley, CA; 2000 to 2002

Led the mechanical efforts to launch the company's 2nd generation all-in-one blood glucose meter, including new product introduction of an adjustable-depth blood expression tip for the lancer.

- Ensured all technical and quality benchmarks were met for the meter by executing and documenting design improvements based on consultation and cooperation with key stakeholders.
- Improved the company's document control system efficiency and performance by driving the company-wide implementation of a new solid CAD database management software tool (similar to Windchill).
- Enhanced the overall technical competency of the engineering staff by mentoring junior level engineers.

Senior Mechanical Engineer (contract)
Aradigm Corporation: Medical Devices (startup);Hayward, CA; 1999 to 2000

Designed key device subsystems of an inhaled insulin delivery device.

- Facilitated Phases II and III of the "Novo1998" drug and device clinical trials by providing mechanical device architecture direction and detailed enclosure design for the device as part of an international multi-disciplinary team.
- Enabled a trouble-free new product introduction by actively engaging with the molder and tooling vendors to ensure the part design intent was met and any changes were executed correctly and on schedule.

Early career:

- Consulting
- Optics and head-mounted displays
- Video projectors
- Consumer electronics
- Communications headsets
- Audio tape players/duplicators

EDUCATION & OTHER:

- Inventor or co-inventor on 17 U.S. utility patents, issued or pending
- BSME, Univ. of Minnesota
- Intermediate level German speaker
- Project Mgmt Cert., Univ. of Washington
- U.S. citizen with valid passport

ADDENDUM

U.S. PATENTS ISSUED:

7,976,477 Precision depth control lancing tip
7,806,868 Drug reservoir loading and unloading mechanism for a drug delivery device using a unidirectional rotated shaft
7,771,392 Lead screw delivery device using reusable shape memory actuator device
7,654,969 Integrated spot monitoring device with fluid sensor
7,476,202 Sampling devices and methods utilizing a horizontal capillary test strip
7,736,322 Precision depth control lancing tip
7,351,213 Integrated spot monitoring device with fluid sensor
4,748,671 Microphone boom hinge
4,747,145 Earcup suspension for headphone
4,726,068 Boom mounted microphone and connector
D383,455 Head mounted display with head-tracker
D375,495 Head mounted display
D317,525 Band for headset
D299,338 Microphone boom hinge
D299,337 Headset
D299,335 Microphone
D299,129 Headphone earpiece

U.S. PATENTS PENDING:

20100084041 Manual filling aid with push button fill
20090299226 Integrated spot monitoring device with fluid sensor
20090105650 Drug delivery pump drive using linear piezoelectric motor
20090036797 Flat lancet immobilization
20060100542 Integrated spot monitoring device with fluid sensor
20050215923 Fingertip conforming fluid expression cap
20040116829 Sampling devices and methods utilizing a horizontal capillary test strip