Embedded Firmware Engineer

Up to £70k depending on experience

This is an opportunity to join the embedded development team in an established consumer electronics company in Cambridge. We make wearable location and activity trackers for cats and dogs, and the technology behind them. Our goal is simple: to help every pet owner keep their pet healthy and safe. There are more than 20 million cats and dogs in the UK alone. We're the UK's clear leader in this growing market. Tens of thousands of owners rely on our devices, app and cloud services every day, and they tell us they love them.

Our engineering team of 25-30 people is based in central Cambridge, near the station. We design and build almost all of our technology in-house, from hardware and firmware to mobile and cloud. It's genuinely challenging work. We take it seriously, we work fast, and we have fun. We're now looking for people who want to join the team and do the same.

Here's what you'll DO

- You will be part of a small but extraordinary team of firmware engineers who are responsible for the embedded software on our wearable GPS and fitness trackers, within the company's wider engineering function.
- You will develop embedded software/firmware for our existing devices and be instrumental in the development of next-generation products from concept to mass production.
- You will work with a range of technologies, from bleeding-edge cellular protocols such as LTE-M and NB-IoT to traditional staples such as Bluetooth, UDP, GNSSm, WiFi etc.
- You will work with other multi-functional team members such as hardware designers, cloud and app developers and test engineers to deliver delightful products to our customers.
- You will participate in Scrum events like planning, retrospectives, sprint reviews, and of course, daily stand-up.
- You will bring your own unique skills and expertise to the team and contribute to our ethos of detailed, considered and quality engineering. We champion in-house designs where we can fully control each element of the stack versus buying off-the-shelf modules and this approach has led to industry-leading power consumption and ease of use across our devices.

Our TECH STACK

In the embedded team we use:

- Embedded processors, including Nordic Semiconductor nRF9160 and other Bluetooth chipsets.
- Zephyr real-time operating system for ARM-based microprocessors.
- GCC, CMake, Kconfig, DeviceTree, MCUboot.
- LTE-M, NB-IoT, BLE.
- GNSS

In the wider company:

- We develop interactive mobile apps on iOS and Android in C# using MAUI.
- Our back-end cloud services are built using the latest .NET stack and live in Microsoft Azure.
- Fully-automated testing and build pipeline development are carried out by our QA and DevOps functions so that developers can focus on developing great code.
- We're continually looking for new and better ways to put our dev team in charge of how we develop our code in the most productive and robust ways.

The TECH SKILLS you'll need

You don't need to have every skill here, but the more the better. As we're a small team, you'll have the opportunity to get your hands dirty working on anything and everything. We're looking for:

- Experience with real-time operating systems for example Zephyr.
- Ideally, 5 years of experience in embedded C software development.
- Proficient in software testing (unit, regression and system testing).
- Experience with one or more wireless protocols like Cellular, WiFi, and Bluetooth.
- Experience in firmware development for and testing of battery-powered products.
- Experience with common bus protocols such as SPI, I2C, and UART.
- Experience with Internet Protocols such UDP, TCP, DNS, SUPL.
- Proficient in Git, Jira, BitBucket or equivalents.
- Knowledge of Unix/Linux environments and embedded Linux.
- Experience of careful code optimisation for us on processors with constrained resources.
- Proficient in writing drivers for peripheral components based on data sheet specifications.
- A portfolio of previous projects involving embedded software – at work or outside.
- Experience in firmware development with wearable technologies would be desirable but not essential.
- It would be hugely beneficial if you have cellular experience (LTE-M, NB-IoT).

OTHER SKILLS

- People who get stuff done. We can't overstate this. We ship working software to real users in a fast-moving market that works in dog years (that's 7x faster)!
- Attention to quality. We can't overstate this either. Every bug we ship damages our reputation, and every bit of code that's hard to modify costs us time and money.
- Technical virtuosity. We need software "artists" with a genuine passion for creating clean, fast software that really "sings".
- Commercial nous. Sorry, it's not enough to be a technical wizard. You also need to understand why we're doing it, and appreciate what makes our users tick.
- Independence and teamwork. Yes, both. We need people who can work by themselves on one day, and as a part of the pack on the next.
- Clear thinking under uncertainty. We live in a complex world and we don't always have all the data. We need people who can fill in the gaps and imagine the whole picture.
- A "can do" approach to life. If something looks hard – impossible even – we still try to find a way to do it, or something very like it. See also "get stuff done" above.
- Degree or higher in Computer Science, Computer Engineering, Electrical Engineering or related field.

What we OFFER IN RETURN

- The chance to use today's most relevant and exciting technologies to build new software that gets released to real users (dog owners!) as often as every two weeks.
- An incredibly supportive and friendly team that believes in listening to everyone's ideas and helping everyone to do their very best job.
- The opportunity to kick start or grow your career through our commitment to on-the-job training and our regular "hack Friday" sessions.
- Fully flexible working based either from our easy-to-get-to office (bring your dog if you like) or from your home, or both. As long as you're in the UK, you could work with us.
- The chance to be part of a successful tech start-up, and to see from the inside what makes a fast-growing business like ours succeed.
- A fun and sociable culture with lunchtime BBQs in our garden and regular out-of-hours events.

PitPat Diversity and Inclusion statement

Employment at PitPat is open to everyone irrespective of race, national origin, age, gender identity or expression, sexual orientation, religion, neurodivergence, marital, family, veteran or disability status. We actively support a culture that encourages everyone to feel safe and supported in being who they are so that their productivity and creativity can flourish.

How to APPLY

We'd love to talk to you, and there will be lots of people wanting to talk to us. But we can't talk to everyone. For the best chance, we'd love you to send TWO things to talent@pitpatpet.com:

1. Your CV.
2. A **brief** email mentioning how your previous experience would help you make the best contribution to our team according to the "What we NEED" section above.

In return, we promise to reply letting you know whether we'd like to take the conversation further. And if we do, and you have a dog, don't forget to ask us for a PitPat with our compliments. :-)

Good luck!