PRAEKELT FOUNDATION

Praekelt Foundation uses open source technologies to deliver essential information and inclusive services to millions of people around the world, especially in Africa. To achieve that goal, we work with governments, NGOs and social enterprises to provide people living in poverty with inspiration, education, financial services and health information - driving behaviour change and creating sustainable impact as a result.

Driven by our belief that access to information is a human right, we use existing mobile technologies in new and unexpected ways to give communities access to services & information that have previously been unavailable. That includes simple interventions, like using please-call-me messages to give AIDS patients in KwaZulu Natal a way to reschedule appointments for free, right through to ambitious, large-scale projects like our Universal Core platform which allows global organisations like UNICEF to publish universally relevant health information translated into dozens of languages to millions across the planet.

Contact careers@praekelt.com to apply.

Salary expectations

Generally ZAR 8K to 10K for developer interns.

Work environment

Praekelt Foundation provides a lot of flexibility in our work environment. You'll have the option of working from home, but we'll encourage you to spend plenty of time in our Woodstock offices to meet with your mentors and to spend time with the rest of our awesome team. We're excited about the skills you'll be bringing to our team, and we're sure you'll find inspiration daily through the work you'll be doing as well as the people you'll be working with.

Things you would learn

1. Team work.
2. Open Source software development.
3. Testing.
4. Continuous Integration & Continuous Deployment.

Possible projects

Screenscrape *111# via GSM Modems

We design, develop and operate a large number of mission critical USSD star menu and SMS shortcode services, both locally and internationally. We lack tools to automatically verify the uptime, accessibility and performance of these applications. We have a rack with 12 GSM modems built in accessible via a socket and the AT Hayes command set / protocol. We need to hook up these modems to Vumi in order to be able to automate the testing of these services. Vumi is our super-scalable messaging engine for the delivery of SMS, USSD (star Menu), and chat messages to audiences in emerging markets and beyond.

Skills: Frontend Dev, Backend Dev & UX
Possible languages & frameworks: Python & Twisted

Programmable Proxy

In Vumi we have an application hosting and development environment called the Javascript Sandbox. It allows 3rd party developers to design, develop and test USSD and SMS applications which are then hosted on our infrastructure on their behalf. We take care of scaling the application. These applications are able to talk to a number of microservices on the internal network. We need a programmable proxy to limit access to these services to a select set of applications depending on some criteria.

Skills: Backend Dev.
Possible languages: IO / Node.js

Introduce Wagtail CMS to our Universal Core stack.

Universal Core enables partners like UNICEF and MAMA to deliver their essential life saving content to people who absolutely need it most. Universal Core's focus has been on the infrastructure required for decentralizing and distributing the management and authoring of this content. It powers the most popular content on Facebook's Internet.org initiative. We have a need for tools that our content partners can use for authoring content. [Wagtail](#) is a promising new Django based open source CMS. We need someone to investigate the capabilities of this CMS and work on a proof of concept implementation which would allow Wagtail to publish to Universal Core based sites.

Skills: Frontend Dev, Backend Dev, UX.
Tools: Python, Django & PostgreSQL.

Vumi Site Reliability Engineering

Vumi is our open source messaging platform that's reached 10 million people and on average transacts 10 million messages a month. It is core infrastructure to strategic health applications for governments and large international NGOs.

Operating an elastic and horizontally scalable stack without automation is madness. The SRE team leverages a wide array of interesting tools to automate and monitor systems, but there are still many parts of our infrastructure that needs better automation. You will be working with our Cape Town based Vumi team members on our production infrastructure to ensure our systems uptime, performance and ability to scale, and learning to design software in such a way that it can be scaled.

Skills: Backend Dev
Tools: Python, Puppet, Docker, Riak, Redis, RabbitMQ, Riemann, Ubuntu, Twisted

Low end feature phone frontend Dev.

We believe progressive enhancement should work from low-end feature phones up. We are on a mission to solve the problem of access to information in the majority world. This is a human centric mission which should fully embrace the fact that the majority of the world's population accesses information services through mobile phones with incredibly limited capabilities.

We want to look in more detail at where, and how, to 'cut the mustard' for applying CSS and JavaScript enhancements, and what our baseline for CSS-only sites should look like.

We have a need for frontend developers and UX designers who are willing to explore this difficult but important territory with us.

Skills: Frontend Dev, UX
Tools: HTML5, CSS, a bucket of crappy phones, automated frontend performance testing.