Portable Genomics Seeks Investors to Develop Genomic Data Apps for Mobile Devices

February 17, 2012

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By Uduak Grace Thomas

Portable Genomics, an informatics startup based in La Jolla, Calif., is hoping to make its bread and butter by developing applications for browsing personal genomic information on mobile devices such as iPhones and iPads.

The company hopes to develop what it describes as wireless genomic healthcare applications that would provide everyday consumers with the tools to view and explore their genomic data and to share that information with healthcare professionals, Patrick Merel, the company's founder and president, told *BioInform*.

Portable Genomics intends to provide a platform for organizing, displaying, and interpreting genomic data that will hopefully catch the eye of direct-to-consumer genomics providers such as 23andMe, as well as genomic services companies and their customers, he said.

He said that the company is currently holding discussions with some undisclosed investors to raise the initial seed capital that would be required to get a prototype of its core application, dubbed Portable Genomics 23, or PG23, up and running. So far, the company has raised 20 percent of the $1 million needed, he said.

Under PG23's hood is a patented process for porting individuals' genomic information onto mobile devices and then organizing it, which operates in much the same way digital media applications like iTunes do, Merel explained.

When it is launched, PG23 — so called because it is currently only compatible with 23andMe data — will be available for iPhones first but will also run on other Apple devices such as iPods

and mp3 players, he said.

The application includes an interface that allows users to visualize their genomic data and it incorporates tools that organize interpretations of genetic traits as provided by 23andMe.

Using iTunes to illustrate, Merel explained that PG23 organizes raw genomic data into something like a music library and it allows users to browse information based on categories like genetic traits and susceptibility to disease.

In the iTunes scenario, PG23's version of "albums" instead represents genetic traits provided by 23andMe and the album "cover" contains information on genetic risk for each trait with red and green tags to indicate low and high susceptibility to particular conditions as well information on known genes and genetic markers, he explained.

The tool can also locate nearby healthcare providers that offer specialized care. For example, an individual who discovers that she has a high risk of developing breast cancer could use the application to find local breast cancer specialists, he said.

An added capability enables PG23 to remind users at risk for certain diseases to get screened regularly. In the case of breast cancer risk, for example, the app would remind the user to get regular mammograms, he said.

In addition to PG23, Portable Genomics offers a free iPhone app called GeneGroove, which creates musical tunes for users based on their 23andMe data.

Using the same patented process that underlies PG23, GeneGroove generates a public key called the GeNumber that’s based on the user's genomic information but it anonymizes the data so that the numeric key can't be traced back to the source genome. This addresses privacy concerns that could otherwise hinder the development of applications that make use of personal genomes, Merel noted.

This key is then used to select music loops that are assembled into personalized melodies, he said.

The app is currently available to download through the iPhone app store and it includes some sample tunes for users who aren't 23andMe customers.

For now the company's apps only accept data from 23andMe, but future iterations will be vendor agnostic, Merel said.

He added that the company has already bagged its first client, a genomic services company who will offer the PG23 prototype to its customers although he could not disclose further details.

Although it's now headquartered in California, Merel and two colleagues initially tried to launch Portable Genomics in Bordeaux, France, in early 2010 but were unable to secure the necessary financial support because French bioethics laws prohibit individuals from taking advantage of DTC genomics services, Merel explained to *BioInform*.

If it is able to raise the financing it needs here in the US, Portable Genomics hopes to begin

selling PG23 as early as this summer, he said.

The plan is to offer the app under a subscription model that would likely cost customers around $100 per year, he said.

When PG23 goes on the market later this year, it won't have any direct competitors, Merel said, although he noted that there are some groups that are attempting to address aspects of the mobile-based genomic application space.

Illumina, for example, several years ago began demonstrating a prototype of an iPhone and iPad app that would allow users to browse, visualize, and share their genomic data (*BI* 8/20/20010). The company has not disclosed its plans for releasing such an app, however.

Another example is DIY Genomics, a non-profit research organization founded in March 2010 to support personalized medicine efforts through crowd-sourced health studies and apps.

The group offers a free application for iPhones and Android phones, called DIY Genomics Health Risk, that compares data from DecodeMe, Navigenics, and 23andme for 20 conditions — including diabetes, cancers, and heart disease — by loci and variants.

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