

Ideas for genomics project: SafeGenome - introduction and diagram.

In a series of posts tagged with [ideas-for-genomics-project](http://scalaakka.blogspot.com/search/label/ideas-for-genomics-project) [http://scalaakka.blogspot.com/search/label/ideas-for-genomics-project] I am describing ideas for business that can be build in area of genomics. If you like those ideas and you would like to join as an investor, co-founder or consultant please contact me at LinkedIn [https://pl.linkedin.com/pub/artur-stanek/a5/643/691] or just drop me an email, stanek.artur@gmail.com [mailto:stanek.artur@gmail.com] .

You may be also interested to check previous post "Introduction to the series [http://scalaakka.blogspot.com/2015/10/ideas-for-genomics-projects.html] " and next post "Store and manage genomic files in a safe way [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-store-and.html] ".

At October 2015 I attended Roche's Code4Life [http://scalaakka.blogspot.com/2015/10/roche-code4life-software-conference.html] conference. Roche is planning to provide analysis services over genome file but - as they admitted - they are not interested to host that files. I understand that hosting business is more difficult that 'just storing files in the cloud' as we need to deal with - for example - legal limitations.

Year before, when I was working for bioinformatics company in beautiful Los Angeles, I initiated few discussions about moving their business to the cloud. What I discovered that genome safety and privacy is so crucial for them and their clients that going to cloud is almost impossible.

I am not sure if there are so big stoppers that we can not go into the Web. As I mentioned in "[Genome - the new intimacy](http://scalaakka.blogspot.com/2016/04/genome-new-intimacy.html) [http://scalaakka.blogspot.com/2016/04/genome-new-intimacy.html] ", new tools needs to be provided to allow both sides (genome owners and companies that want to provide services over them) to be satisfied.



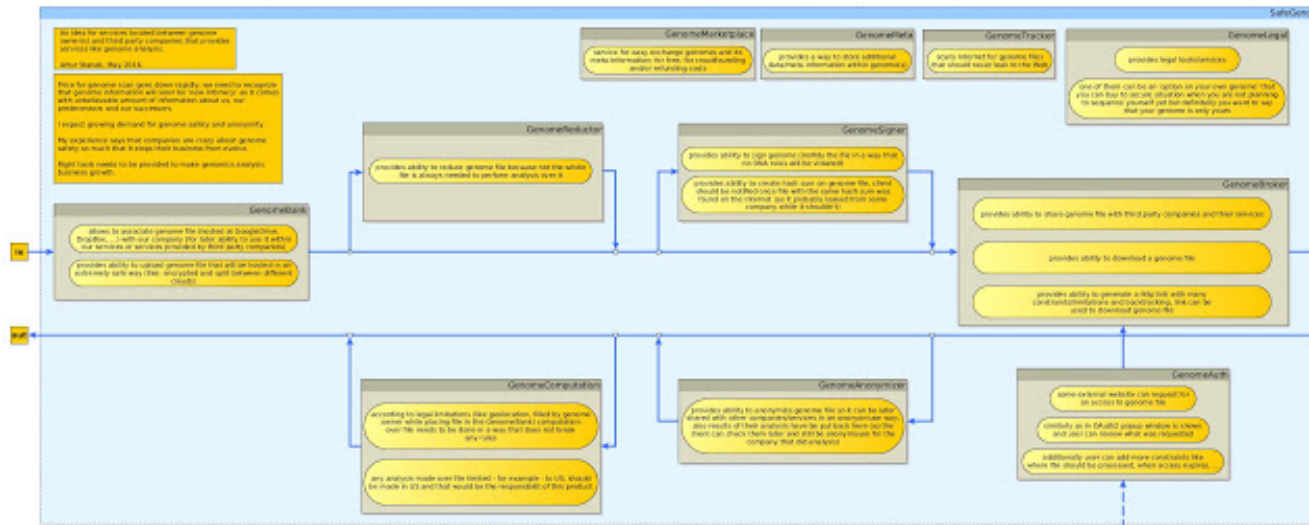
[[https://1.bp.blogspot.com/-](https://1.bp.blogspot.com/-Xcng2_XpAQc/VyB8znh5x4I/AAAAAAB9oc/T5ndTAleMgEfa_xMUQuAsoOKauuNUqcHQCLcB/s1600/20151023_Roche_Code4Life_sequencing_cost_per_genome.jpg)

[Xcng2_XpAQc/VyB8znh5x4I/AAAAAAB9oc/T5ndTAleMgEfa_xMUQuAsoOKauuNUqcHQCLcB/s1600/20151023_Roche_Code4Life_sequencing_cost_per_genome.jpg](https://1.bp.blogspot.com/-Xcng2_XpAQc/VyB8znh5x4I/AAAAAAB9oc/T5ndTAleMgEfa_xMUQuAsoOKauuNUqcHQCLcB/s1600/20151023_Roche_Code4Life_sequencing_cost_per_genome.jpg)]

Sequencing cost is rapidly going down (above photo was taken at Roche's Code4Life [<http://scalaakka.blogspot.com/2015/10/roche-code4life-software-conference.html>] conference). In 2015 it was near \$1000 per genome and going down. Once it will go below critical point people will scan themselves on a mass scale. Where will they keep their scans? Will it be safe for them? Will companies that provides analysis not overuse the situation?

Bigger picture.

Here is a diagram that describes elements of a SafeGenome [<http://scalaakka.blogspot.com/search/label/SafeGenome>] idea:



[<https://drive.google.com/open?id=0B-0Pn6VesQ0-OER5MmQxTGt3Q1k>]

For more details please check following posts:

- [GenomeBank](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-store-and.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-store-and.html] ,
- [GenomeReducer](http://scalaakka.blogspot.com/2015/10/idea-2-for-genomics-project-allow.html) [http://scalaakka.blogspot.com/2015/10/idea-2-for-genomics-project-allow.html] ,
- [GenomeSigner](http://scalaakka.blogspot.com/2015/10/idea-1-for-genomics-project-signing-and.html) [http://scalaakka.blogspot.com/2015/10/idea-1-for-genomics-project-signing-and.html] ,
- [GenomeBroker](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome-broker.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome-broker.html] ,
- [GenomeAnonymizer](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome.html] ,
- [GenomeComputation](http://scalaakka.blogspot.com/2015/11/idea-4-for-genomics-project-overcome.html) [http://scalaakka.blogspot.com/2015/11/idea-4-for-genomics-project-overcome.html] ,
- [GenomeAuth](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-give.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-give.html] ,
- [GenomeTracker](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-check-if.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-check-if.html] ,
- [GenomeLegal](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-option-on.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-option-on.html] ,
- [GenomeMeta](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome-meta.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-genome-meta.html] ,
- [GenomeMarketplace](http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-exchange.html) [http://scalaakka.blogspot.com/2015/11/ideas-for-genomics-project-exchange.html] .

and surrounding articles:

- [Genome - the new intimacy](http://scalaakka.blogspot.com/2016/04/genome-new-intimacy.html) [http://scalaakka.blogspot.com/2016/04/genome-new-intimacy.html] ,
- [Wearables in help of genome analysis](http://scalaakka.blogspot.com/2016/04/wearables-in-help-of-genome-analysis.html) [http://scalaakka.blogspot.com/2016/04/wearables-in-help-of-genome-analysis.html]
- [Genorism - the danger that is closer each day](http://scalaakka.blogspot.com/2016/05/genorism-danger-that-is-closer-) [http://scalaakka.blogspot.com/2016/05/genorism-danger-that-is-closer-

[each-day.html](#)] .

The target.

I see two potential targets:

- allow genome owners to safely buy services on the market,
- allow consultancy companies to provide their services on a mass scale by using tools/services provided by this platform (to give an example: [AWS](https://aws.amazon.com/) [https://aws.amazon.com/] , Amazon Web Services, is a set of services used on a mass scale by many companies, one of them is [DropBox](https://www.dropbox.com/) [https://www.dropbox.com/]).

Local and cloud.

I suspect that clients can be interested in two models of interaction:

- cloud based - everything is done via the website,
- local - for maximal privacy client downloads the app and performs all operations on a local machine.

The potential.

Please discover that specific location of services described here represents potential for many others services such as providing our own genome analysis.

How big is the market? Well, let's just keep in mind that once sequenced, genome can be send for new analyse each month, each half of the year... and I am talking here about genome of each human, animal (expensive race horse?) and a plant (exceptional corn that can grow on the desert?). Numbers are tremendous.

Free services.

Similarly as [GitHub](https://github.com/) [https://github.com/] , [BitBucket](https://bitbucket.org/) [https://bitbucket.org/] and [Travis](https://travis-ci.com/) [https://travis-ci.com/] I would like to offer free services for people that would like to 'open source' their genomes (or some of its parts). So if genome is open and freely available then services in presented system should be also available for them for free.

Short description of the idea (in Polish).

SafeGenome jest zespołem pomysłów jakimi powinny być otoczone pliki z zsekwencjonowanymi genomami aby zapewnić bezpieczeństwo, śledzenie, anonimizację oraz pozwolić na wykonywanie usług respektując ograniczenia prawne.

Genom jest potężnym źródłem informacji, niesie ze sobą dobre strony jak i zagrożenia z którymi wkrótce

przyjdzie nam się zmierzyć. Jeśli nie podejmiemy do tematu poważnie to nasze pliki z genoami łatwo wyciekną do Internetu skąd nie da się ich usunąć. Niedługo genomy staną się 'nową intymnością'. Warto dołożyć wszelkich starań aby ich dobre strony oraz rynek analiz rozwijały się swobodnie. Aby to osiągnąć muszą zostać wytworzone odpowiednie narzędzia.

Nowy serwis powinien być tak właściwy (natwny) dla genomów jak DropBox i GoogleDrive są dla dowonlnych plików lub GitHub i BitBucket dla kodów źródłowych.

Pełen opis pomysłu wraz z towarzyszącymi artykułami znajduje się w poszczególnych blog postach pod adresem <http://scalaakka.blogspot.com/search/label/ideas-for-genomics-project> [\[http://scalaakka.blogspot.com/search/label/ideas-for-genomics-project\]](http://scalaakka.blogspot.com/search/label/ideas-for-genomics-project) . Spis treści po lewej proszę czytać od dołu.

Posted 31st October 2015 by [Artur Stanek \(kermitas\)](#)

Labels: [AWS](#), [bioinformatics](#), [DropBox](#), [genomics](#), [ideas-for-genomics-project](#), [non web find](#), [Roche](#), [SafeGenome](#)



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