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## AIMBRAIN'S MULTI-MODAL MOBILE BIOMETRIC AUTHENTICATION PLATFORM



**INNOVATOR: ALESIS NOVIK, AIMBRAIN SOLUTIONS**

[www.aimbrain.com](http://www.aimbrain.com)

### PROBLEM ADDRESSED BY THIS INNOVATION:

Many mobile applications are plagued by terrible user authentication experience (e.g. long passwords, hard tokens). AimBrain's platform solves that by providing a biometric authentication layer consisting of behavioural, facial and voice biometrics.

### KEY BENEFITS:

- AimBrain's passive behavioural biometric modality improves user experience without compromising security or requiring the users to do any explicit actions.
- AimBrain's facial and voice biometric modalities allow for simple authentication either at the start of the app or as a step-up solution when higher security is required.

### PREVIOUS AND EXISTING CUSTOMERS:

- UBS - won the UBS Future of Finance regional competition. Got selected for acceleration towards a technology trial with UBS.
- AimBrain is in the Accenture's Fintech Innovation Lab, which exposes the company to multiple major Global and UK banks.

### INNOVATION DESCRIPTION:



AimBrain has developed a patent pending, mobile focused, biometric authentication platform, that can be used with any mobile browser or data-sensitive application.

The platform currently consists of three modalities - behavioural, facial and voice.

With the behavioural modality the platform uses machine learning to track not what the user enters, but how they enter it. Features such as touch pressure, typing speed, device movement and swiping patterns are monitored.

The facial and voice modalities use the latest advances in machine learning, such as deep learning, to authenticate the users against a previously enrolled template.

There are three main features how AimBrain's solution differs from their competitors:

1. It is a multi-modal authentication platform – by having multiple modalities in one package AimBrain makes it very easy to have a step-up authentication mechanism within a single application.
2. It provides a passive, continuous context-based biometric authentication – with the behavioural and other passive modalities it continuously authenticates the user without them having to do anything.
3. It provides a session score – the platform not only provides scores for each modality, but also a combined session score derived using proprietary algorithms, which intelligently weight each modality.

AimBrain's biometric authentication platform works on any device your customers might have without requiring any additional sensors. While the behavioural modality works primarily on mobile devices, facial and voice can be used on any system with a camera or a microphone (such as physical branches, ATMs or work terminals).

Because privacy is a major issue for banks AimBrain provides the authentication servers to be run on the financial institution's premises. AimBrain's mobile software development kit is the only one that can be integrated in under 2 hours and gives access to multiple biometric modalities. There is no longer a need for banks to test, negotiate or hold procurement with multiple vendors for each one.

Finally, AimBrain has developed a **patent pending** method for using the context the user is interacting with the device in to improve our accuracy. It uses intelligent feature selection and classification to determine what the user is doing, and picks an authentication model based on that information.

## HOW DOES THIS INNOVATION ADD VALUE?



As a result of security concerns across sectors, and particularly in banking and finance, enterprises have introduced measures, such as:

1. Using hard tokens (RSA SecurID, card readers), which damage user experience or
2. Requiring users to create passwords, which academic research has shown users tend to write down (Source: Dr Angela Sasse, UCL) or
3. Using a simple pin code, however it is guessable and easily shoulder-surfed.

Mobile banking saw a 48% increase in fraud in the recent years (Value Partners report), which has corporates like UBS looking for solutions. Businesses, particularly banks, will save significant revenues due to both reduced fraud rates and reduced time processing fraud. The corporates acknowledge however, that user convenience is the main driver and must come before security (Source: IEEE Secure Internet banking authentication). Mobile banking is also 43 times cheaper than branch transactions, which will further save money for banks if its usage can be increased, once user/security concerns are reduced.

To address these issues, AimBrain has developed a **patent pending**, mobile focused, biometric authentication platform, that can be used with any mobile browser or data-sensitive application. It allows banks to easily and securely authenticate their users without using cumbersome methods such as hard tokens or long passwords.

With AimBrain's technology, banks can expand the functionality of their mobile applications, both meeting the customer demand and reducing the costs of operating branches.