



**Harnessing behavioral
intelligence to improve lives.**
alertR by smartR AI

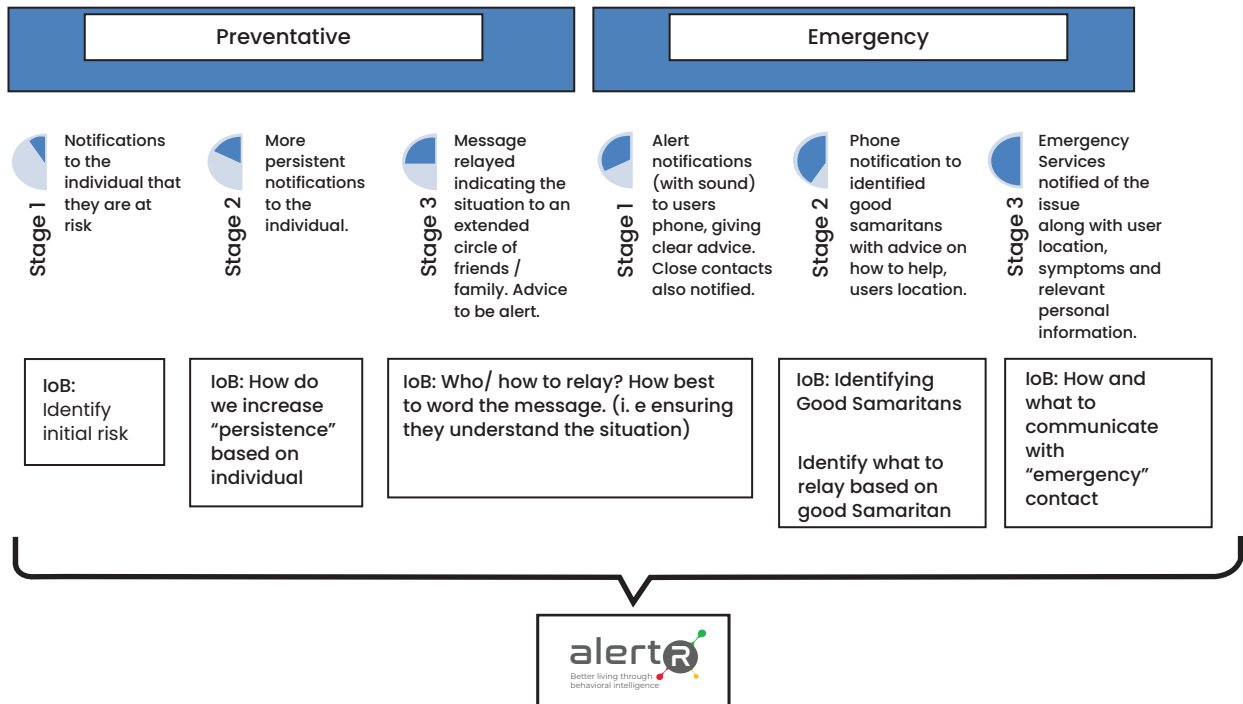
alertR™ is a behavioral intelligence–based alerting system to reduce risks and protect vulnerable individuals through predictive and preventative measures by providing speedy support and assistance.

Understanding, interpreting, predicting and responding

By applying artificial intelligence and machine learning techniques, the alertR engine identifies and analyzes unique user behaviors, traits, and habits to determine those that deviate from the individual’s norm. Potential risks to the user are alleviated by warning the user of these behavioral deviations, plus making relevant contacts aware should the situation necessitate, via personalized alerts. Through the analysis of data collected from a wide range of sources regarding the individual, it decides to whom, how, where and when alerts are necessary.

Connecting with the right person in the right place at the right time in the right way; the alertR engine dispatches bespoke preventative and emergency alerts in a timely, precise, and appropriate manner to the relevant person within the community, including good Samaritans in situ and emergency services if necessary. The good Samaritan feature is vital; through the use of clustering algorithms alertR identifies those in the general community known to be ready and prepared to help others who are in difficulty and can find out if they are close at hand.

Figure 1: alertR’s Preventative and Emergency Alerting Levels



alertR’s unique response mechanism ensures efficiency and effectiveness in times of need. A “respondR” button is part of the personalized alert received by a support contact. Pressing this button indicates the vulnerable individual is “being attended to”, triggering a system reaction.

Firstly, alertR provides clear advice to the support person, relaying the individual's location, relevant medical details, and any useful contact numbers. This process happens in line with the individual's identified preferences via the App set up. Secondly, the system now knows it doesn't need to contact the next person in the chain, and thirdly, it informs the contacts previously alerted who did not respond that the situation is under control.

The alertR feedback function is vital for ongoing personalization enhancements. Feedback is gathered from the user and their contacts about their unique experiences, especially post incident, providing valuable data. Using ML applications, the alertR decidR engine digests the data leading to improvements in the functionality and effectiveness based on the individual using alertR.

The alertR App and its easy-to-use dashboard are an intrinsic part of the solution for users to monitor their current status and progress long-term. It functions as a one-stop-shop for the individual to gain insights on their personal exposures, plus it relays personalized warnings and alarms. From the data collected and long-term tracking, the App provides in-depth information personalized to the individual's needs. Scheduled daily and weekly personal alerts provide insights on achievements, highlights, and areas to be aware of, while challenge alerts are triggered based on situational and objective analysis. Any changes in an individual's behavior or situation trigger initially preventative alerts. The alertR App provides a personal notification for the individual informing them that a change has been noticed, and what it is, thus raising awareness and the opportunity for the person to alter the situation and avoid escalation. The App can be integrated into both phones and watches. Depending on needs, the dashboard is also available via a website.

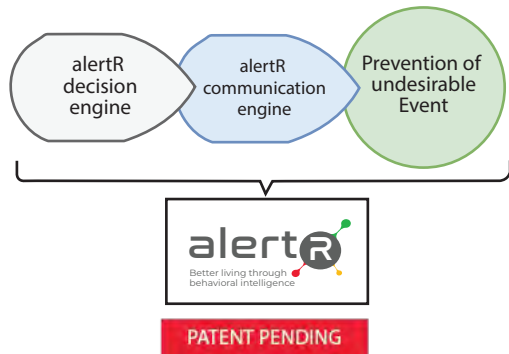
A dynamic duo alert platform

alertR is a best-of-breed smart alert engine that integrates with multiple existing systems. Comprising the decidR and delivR engines (see Figure 2), these two systems work in tandem to understand, analyze and predict when, where, to whom and how alerts are required based on behavioral intelligence insights.

- 1. decidR engine:** Deciding if a person is in a state of distress or needs help.

This engine also works as an emotional state estimator; it predicts the risk level of the particular situation and triggers a warning should it become apparent there is a change in behavior.
- 2. delivR engine:** Forming an effective message, and conveying it by the most efficient communication method. When there is a trigger warning, this engine responds with personal, preventative and emergency alerts, escalating based on behavioral intelligence. It dispatches alerts at speed, in a precise and bespoke manner to the right person, at the right time, in the right way.

Figure 2: The alertR Engine



alertR interconnects individuals with numerous platforms, including phones, sensors, the Internet of Things (IoT), social media, messaging platforms, community groups, geolocation tools, and personal connections, using AI and applications such as ML, deep learning, along with embedded devices. IoT devices include smart home devices, car navigation systems, smart doorbells, and speaker systems, to name a few, as long as they are Wi-Fi connected. Embedded devices can be connected, including wearables, such as fitness watches, earpieces, sensors, medical and bespoke devices developed specifically for the need of individuals. All these inter-connections provide alertR with the data to understand, interpret, predict, and respond reliably and accurately.

As data collection is a vital part of the system, alertR utilizes both database and cloud servers. The cloud server is used for some of the ML models; this needs to maintain constant communication with the individual's devices and digital activities to ensure information is relayed at the exact time the engine identifies a potential risk. Models are also stored locally on the user's phone, to ensure they stay protect while their smart device is not connected to the internet.

Due to the sensitivity of this data, high security and privacy levels are mandatory. Data collected is never shared with a third party, nor used against a client or the user, and follows all ethical and legal responsibilities.

alertR uses clients' data, transforms anonymous data points for machine learning, and is adaptable to various data requirements. With user granted permissions, anonymized data will be used to allow the engine to aggregate data for similar groups of individuals. This improves the performance of both the decidR and delivR engines. Using a variety of APIs, and applications of the alertR and SERLE engines, customized models and systems to meet the needs of the individual user can be produced with ease.

Functionality and features

Engine functionality	Engine features
<p>Determines the "risk level" of the individual for a point in time, to decide if intervention is required</p>	<p>Uses AI / ML for predictive analysis</p>
<p>Support / emergency networks:</p> <ul style="list-style-type: none"> Automates the process of adding people to your list of emergency contacts. Predicts when emergency contacts are likely to be online / available for support. Automatically updates contact information when a prior contact is identified as disconnected. For instance, a contact who has changed phone number. Ability to identify good Samaritans in the community and add these good Samaritans as contacts to relevant users. Finds similar people the person doesn't know, but are also using the App. These become another group alertR reaches out to in the case of an alert. Builds an invisible support network for the user. These are people who can help that they might not know, but the alertR engine decided would be a good fit. 	<p>Dynamic engines based on behavioral intelligence</p> <ul style="list-style-type: none"> decidR engine: Decision-making process for triggering alerts delivR engine: Effective messaging system (generic and bespoke) <p>Long-term tracking of metrics. Allows the user to better understand their condition and symptoms over time through an easy-to-use and understandable dashboard on their phone, wearable, or computer.</p>
<p>Concise relays important information, personalized to the individual recipient. Depending upon the person in the chain being contacted, the delivR engine decides what they need to know for them to be able to respond appropriately. For example, full location information, medical history, measurements of bodily internals, psychological / emotional status, etc.</p> <p>The delivR engine can also determine the appropriate language for the message, depending on the identified communications between the individual and selected contact. Further, it personalizes and identifies the appropriate device, and notification style for this device (push notification, phone call, in app notification) to suit the needs of the situation.</p>	<p>Community:</p> <ul style="list-style-type: none"> Connecting with existing support mechanisms, eg support communities, families, guide dogs / emotional support dogs, in-home smart devices Community / good Samaritan interconnection <p>Integration</p> <ul style="list-style-type: none"> Existing wearable / hearable devices Other smart systems, eg. Secure door unlocking system via the application
<p>Secure connection to an emergency door lock opening system initiated by alertR for responder access when required.</p>	<p>Low-cost stand-alone devices for those without existing devices</p>

About smartR AI

smartR AI™ is committed to developing life-changing artificial intelligence applications based on the evolution of interactions, behavior changes, and emotion detection.

Focusing on behavioral intelligence and interconnections with IoT, we use AI applications to understand, interpret, predict, and respond to complex scenarios. As intelligence moves to the edge of the network, smartR AI is all about doing things the smartest way.

To solve complex real-world problems and optimize decision-making, smartR AI uses its intelligence-based proprietary engines. These engines ensure optimal efficiency and performance, improve quality, and reduce human error. They learn faster, leverage existing and historical knowledge, provide data efficiency, and allow for connectivity, to name just a few of their attributes.

The team builds products with the latest AI techniques and knows how to help you integrate AI into your product, and our expertise and diversity of knowledge ensure clients benefit from high levels of adaptability. We listen to your ideas and turn them into reality.



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