

**AGREEMENT OF COOPERATION,  
CREATING AND USING THE APPLICATION  
AND LICENSE AGREEMENT**

entered into a contract based on § 269 Article 2 and § 536 of Directive 513/1991, Commercial Code, and its subsequent amendments (henceforth "Commercial Code"), and on § 2 and following of Directive 121/2000, Copyright Law, and its subsequent amendments (henceforth "Copyright Law")  
(henceforth "agreement")

between:

**Ordering Party:**      **Adaptive Resilience Ltd.**  
150 Princess Avenue, London W3 8LU, United Kingdom  
VAT ID: 221863716 (UK)  
Bank account: 93644642  
Sort Code: 20-35-93  
SWIFTBIC BARCGB22  
IBAN: GB04 BARC 2035 9393 64446 42  
Bank address: Barclays Bank, 153 Chiswick High Road London W4 2EA  
Incorporated at: Renown House, 33 -34 Bury Street, London, England, EC3A 5AR  
Company number: 08841366  
Acting through: Dr Peter Gruenewald, Managing Director  
(henceforth "Adaptive Resilience" or "Client")

**Contractor:**      **Happy Electronics, s.r.o.**  
Spořilovská 214/11, Věkoše, 503 41 Hradec Králové, Czech Republic  
VAT ID: CZ27513807  
SWIFTBIC: FIOBCZPPXXX  
IBAN: CZ0920100000002300348331  
Bank address: Fio banka, a.s., V Celnici 1028/10, 117 21 Praha 1  
Incorporated at: Rejstříkový soud v Hradci Králové, oddíl C, vložka č. 23512  
Acting through: Ing. Petr Kolman, Company Director  
(henceforth "Contractor")

To both parties together may be henceforth referred as to "Contracting Parties" or to each separately as to a "Contracting Party".

Initials:

*Ph*

Peter Gruenewald

*PK*

Petr Kolman

## Preface

The Contractor is the owner of the StressLocator application, designed for measurement of physiological activity of human's body, while the Ordering Party dispose the ideas, thoughts and information needed to improve the original application to make it suitable for Client's needs (henceforth "Customized Application").

The Client seeks tailor-made features to use for his own profit, which would be developed exclusively for and according to wishes of Adaptive Resilience Ltd. The Contractor is willing to customize the StressLocator application and follow the conditions of the Client according to exclusivity and confidence in exchange for a reward closely specified below. The Contractor is also willing to design the Customized Application with the branding (pantone- colours and logo) of the Client. The Customized Application will be traded under a name provided by the Client (current working title: "Go & Let Go").

To reach the ultimate goal, the Contracting Parties decided to enter into a contract and sign this agreement.

## Article 1

### The Subject of the Agreement

1. The Contractor commits himself to develop all the features and make all the necessary changes needed to customize and extend the application to Client's demands.  
The technical specifications of the Application are defined in the **Enclosure no. 1** of this Agreement.
2. The commitment of the Contractor is in accord with the commitment of the Client to provide the reward specified below.

## Article 2

### Price

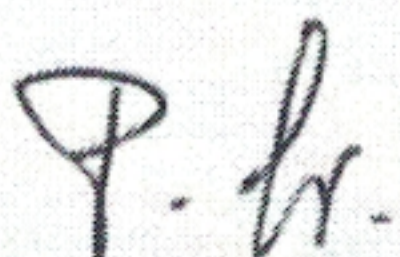
1. Adaptive Resilience commits itself to pay the Contractor for customizing and extending the application for the Android Platform an amount of 3,600 € (three thousand and six hundred Euro) plus 21% VAT and to do that as follows:
  - a) 50% of the sum will be paid upfront within one week of signing this agreement
  - b) 30% of the sum is to pay once a functioning beta-version of the Customized Application is provided by the Contractor.
  - c) 20% of the sum is to pay when the final version has been signed off by the Client. The final version will be signed off when all planned functionality is implemented and working, and no high or medium severity bugs are being found during final testing.

2. Adaptive Resilience commits itself to pay the Contractor for customizing and extending the application for the IOS platform an amount of 7,200 € (seven thousand and two hundred Euro) plus 21% VAT and to do that as follows:
  - a) 50% of the sum will be paid upfront one week prior to the agreed starting time of the work
  - b) 30% of the sum is to pay once a functioning beta-version of the Customized Application is provided by the Contractor.
  - c) 20% of the sum is to pay when the final version has been signed off by the Client. The final version will be signed off when all planned functionality is implemented and working, and no high or medium severity bugs are being found during final testing.
3. The Contractor is authorized to issue an invoice for the second part of the price no earlier than once the Client accepted the beta (testing) version of the Customized Application.
4. The Contractor is authorized to issue an invoice for the third part of the price no earlier than once the Client accepted the final version of the Customized Application.
5. The Client is obliged to honour the invoices issued by the Contractor within 30 day-period counting from the date of acquiring the invoice, sending the money to the bank account given in the heading of this agreement.
6. Contractor's invoice has to be in accord with all legal requirements.
7. Has the Client any objections against the letter of the invoice, he is authorized to return it for corrections and completion with an expression of the exact reason of doing so. In such a case, the deadline mentioned in section 3 is not in force, until a correct invoice is delivered to the Client.
8. The price defined in the section 1 of this Article comprises all the expenditures of the development the Client has creating the Customized Application.

### Article 3

#### The place and time of fulfilment

1. The Contractor is allowed to work on the customizing and extension on whatever place.
2. The Contractor is obliged to proceed his work as follows:
  - a) Latest four weeks after the Contractor has received the first payment from the Client, the beta version of the Customized Application (Android) will be given over.
  - b) Latest four weeks after the Client has received the beta version from the Contractor, the final version of the Customized Application (Android) will be given over.
  - c) Hence the development of the Customized Application (Android) will be completed 8 weeks after having received the initial payment for the Android version of the Customised Application.



- d) The first payment for the IOS development will be made not earlier than 6 weeks after the first payment for the Android version of the Customised Application has been received by the Contractor.
  - e) Four weeks after receiving the first payment for the IOS version of the Customised Application the beta version of the Customized Application (IOS) will be given over.
  - f) Latest four weeks after the Client has received the beta version from the Contractor, the final version of the Customize Application (IOS) will be given over.
  - g) Hence the development of the Customized Application (Android) will be completed 8 weeks after having received the initial payment.
3. Upon finishing any version of the Customized Application, the Contractor informs the Client and invites him to perform an acceptance test.
  4. Should any version not fulfil the requirements and therefore fail to pass the acceptance test, the Client has a full right not to accept it, and so no payment will be made.
  5. By signing an acceptance protocol, the Client formally accepts the given version of the Customized Application.

#### **Article 4**


##### **The Rights and Obligations of the Contracting Parties**


1. Upon a request, the Client is obliged to provide the Contractor all the information needed for the development.
2. The Contractor is obliged to fulfil his obligations with all the professional art, honesty and responsibility that is to expect in a professional business.
3. The Contracting Parties are obliged to honour the Confidential Agreement signed on 5 February, 2016.
4. The Client is obliged to provide all the cooperation required to reach the goal of the Agreement in accordance with the reasonable requirements of the contractor.
5. The Contractor is obliged to fulfil his obligations properly and in time. He is also obliged to follow the instructions of the Client and to notify him immediately as he finds out, that some of these instructions are unsuitable or in conflict with legal norms, or infringing on pending or existing patents. The Contractor is as well obliged to inform the Client about everything that could affect his work on the goal of the Agreement in any important sense.

#### **Article 5**

##### **The copyright and licensing**

1. The Contractor declares that he holds full property rights to the StressLocator Application.

Initials:   
Peter Gruenewald

  
Petr Kolman

2. The Client declares that he holds full property rights to the audio files as part of the audio training, which will be provided as part of the Customised Application.
3. The intellectual property right related to new features and functionalities developed for the customising of the application (excluding the audio files) will be owned by the Client and will be made available through a license to the Contractor for the use in his SressLocator products on request.
4. Adaptive Resilience is authorized to use the Customized Application to its own profit, but holds no property rights to the Customized Application, with the exception of the parts that Adaptive Resilience has contributed towards the extension of the app, such as the audio programmes, and other future extensions. These rights are kept by the Contractor.
5. The Contractor is authorized to use the sound files and other training techniques provided by the Client for integration into the Customised Application only, but holds no property rights to the audio training programme and other training elements provided by the Client. These rights are kept by the Client.
6. To use the Customized Application, the Client is obliged to buy licensed copies from the Contractor. The client will pay the Contractor 4 € per downloaded copy and the right to use it is not timely limited.
7. The Contractor makes available the Customised Application as a download from Google Play, Apple App Store and as a download from the Client's website (Adaptive Resilience). The price of the customised application will be determined by the Client.
9. The Contractor will invoice the Client once monthly for the license fees.
10. The Client is obliged to honour the invoices issued by the Contractor within 30 day-period counting from the date of acquiring the invoice, sending the money to the bank account given in the heading of this agreement.
11. Contractor's invoice has to be in accord with all legal requirements.
12. Has the Client any obligations against the letter of the invoice, he is authorized to return it for corrections and completion with an expression of the exact reason of doing so. In such a case, the deadline mentioned in section 3 is not in force, until a correct invoice is delivered to the Client.
13. The Client is authorized to use the licensed copies all the ways they can be used in the sense of the purpose of the Customized Application. The Contractor has no right to limit the usage above what is stated in this Agreement.
14. The Contractor obliges himself not to provide either a license nor a copy nor a feature of the Customized Application to a third party. The Contractor understands and accepts that the use of the work product subject to this agreement is exclusive to the Client.
15. The Client has the right to allow any third party to use the Customized Application provided by usage of a legally purchased licensed copy. For this, no Contractor's permission is required.

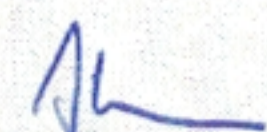
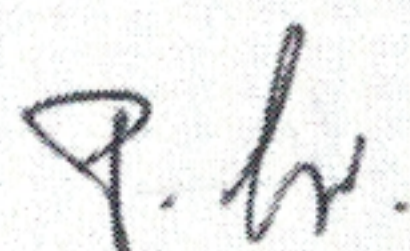
**Article 6**  
**Additional Profits**

1. The Contractor commits himself to provide and send out the hardware specified below to the customers who have ordered the hardware through websites or outlets of Adaptive Resilience.
2. The Client voluntarily commits himself to support the "StressLocator Oximeter" device by using it with the Customized Application and recommending this usage; this only applies for customers within Europe.
3. The Client may also recommend the use of an EEG belt provided by a third party.
4. For the sale of "StressLocator Oximeter" provided by the Contractor, the Client will be rewarded with 15 % of the sum for which the Contractor sold each "StressLocator Oximeter" to a customer demonstrably buying it on Client's recommendation or via the client's websites.
5. The "StressLocator Oximeter" will be offered via the Client's Adaptive Resilience website.
6. The distribution and customer's services regarding the "StressLocator Oximeter" will be managed by the Contractor.
7. The reward from the sales of the "StressLocator Oximeter" will be sent to Client's bank account given in the heading of this agreement or to any account the client may identify in the future.
8. For the use during workshops the Contractor will make available to the Client a requested number of "StressLocator Oximeters" at a discounted rate, i.e. for 75% of the retail price.

**Article 7**

**Provision for ongoing maintenance and development**

1. The Contractor commits himself to provide ongoing maintenance of the app. The contractor will fix reported bugs usually within a period of 4 weeks. Severe bugs that impact on the functionality of the app or severely impair the user experience should be fixed with 1 week. The fee for this work is for free, as covered by the license fee.
2. The Contractor will endeavour to constantly improve the product. New features may be added in agreement between Contractor and Client and the contractor can charge the client the agreed developer fee, currently Euro 180 plus VAT (21%) per day for programming work.
3. It is endeavoured to develop customised app also for the IOS environment. The cost of such a development will be outlined in a future addition to the contract.
4. It is endeavoured that a software version of the app is being developed for the use on the OS X and Windows powered desktops. This development will be regulated in a separate contract.



## Article 8

### The use of the Cloud

1. The Contractor provides access to the Contractor's cloud services for the Client and the customers of the paid version of the customised software.
2. The anonymous data collected from the use of the customised application will be owned by the Contracting Parties for the purpose of research and development. Each party agrees to comply with all applicable data protection laws.

## Article 9

### Dissolution of the Agreement

1. The Agreement can be dissolved by an arrangement of the Contracting Parties, by termination or by a withdrawal from the Agreement as defined in the Commercial Code.
2. The Agreement can not be dissolved by termination or by a withdrawal from the Agreement as defined in the Commercial Code earlier than after an initial period of 30 months.
3. Thereafter the notice period is 12 months long and it counts from the first day of the month following the month in which the notice is given.
4. In the case of dissolving by an arrangement of the Contracting Parties the arrangement can be dissolved at any time agreed.
5. Both the Contracting Parties are authorized to terminate the Agreement even without giving any reason after the initial period of 30 months.
6. With end of the contractual arrangement no new financial obligations will be created.
7. In the case that Happy Electronics withdraws from the market, sells its business or goes into insolvency, the Client has the right of first refusal to buy the Customised Application outright, including all source codes needed to create the application on all platform (Android & IOS) for which the application exists at this time, for a total of Euro 15,000.
8. Any application that has been purchased needs to maintain full functionality within the platform version it has been designed for, and will not be turned off or disabled by any (remote) means, even if the contract is terminated.
9. The Contractor will provide updates to the software to maintain functionality in new (higher) platform versions, at request and at cost of the Client for the duration of the contract. The software upgrade patches will be made available to customers via the cloud in order to maintain the functionality of the app, if the customer upgrades the operating system. The fee for the development will be Euro 180 plus 21% VAT per day for 2016 and will be adjusted to the software developer price index.

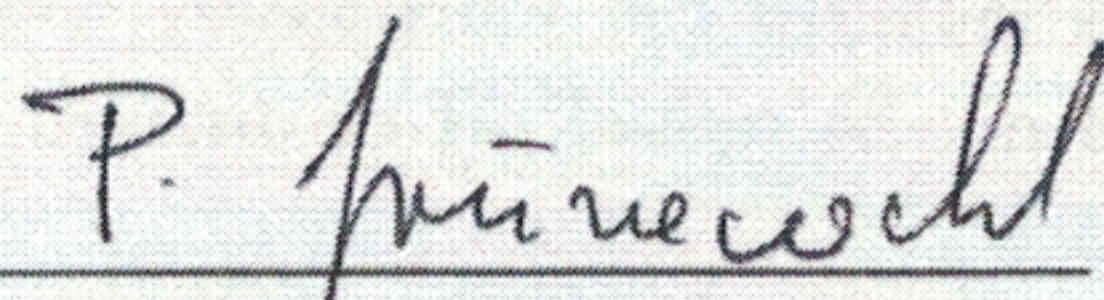
## Article 10

### Final Provisions

1. This Agreement comes into force and effect by the day of its signing.
2. This Agreement is made in two exemplars, each of the Contracting Parties is given one.
3. The changes to this Agreement are possible to make only after a joint arrangement of both Contracting Parties and in a form of numbered appendixes to the existing Agreement. Any such change must be signed by the Contracting Parties.
4. The Contracting Parties agreed to arrange their agreements according to jurisdiction of Czech Republic, especially the Commercial Code and Copyright Law.
5. Both sides commit themselves to resolve any conflicts by arbitration before considering legal proceedings.
6. In case that any of the arrangements of this Agreement happens to be in conflict with legal norms, it does not annul the Agreement as a whole.
7. An inextricable part of this Agreement is the Enclosure no. 1, "Technical Specifications".
8. The Contracting Parties declare that they read the Agreement carefully, agree with all its elements and understand all its provisions which they confirmed by signing it. They did so voluntary, by their own will, and each party accepts, that it has the opportunity to take legal advice.

For the Client:

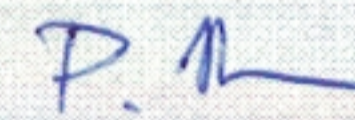
London, on 31<sup>st</sup> March 2016



**Adaptive Resilience Ltd**  
Dr Peter Gruenewald  
Managing Director

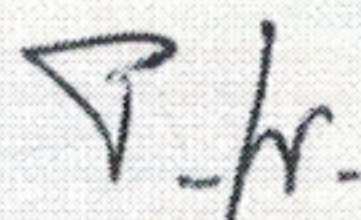
For the Contractor:

Prague, on 31<sup>st</sup> March 2016



**Happy Electronics, s.r.o.**  
Ing. Petr Kolman  
Company Director

Initials:



Peter Gruenewald



Petr Kolman

## Enclosure no. 1 of the Agreement of Cooperation Technical Specification

### 1. Description of the Application

**Name of the application:** Go & Let Go

Icon on desktop:



**Go & Let Go**

**Platforms:** Android & IOS

**Overall functionality:** HRV assessment, audio- training with HRV feedback (Resonant frequency training and relaxation)

**The application will have the following specific functionalities:**

- 1 Relaxation training
- 2 Engagement training
- 3 Autonomic wellness assessment
- 4 A Log function for all activities over time described above (1-3) stored and accessible on device and in the cloud
- 5 Data exportable (R-R intervals)
- 6 Built in programmable audio training
- 7 Exercise scheduling that incorporates email reminders
- 8 Compatibility for blue tooth Plethysmograph and ECG belt e.g. polar H7
- 9 Use of smartphone camera for free of charge trial version
- 10 To provide instructions how to project the image onto a wall (digital projection) and if possible, how to display the screen on a laptop or desktop computer.
- 11 Access to cloud for customers and client (Data is available for client and contractor for the purpose of research and product improvement)
- 12 Compliance with the European data protection act
- 13 Disclaimers and permissions regarding the use of the application through the customer and the use of the anonymous data by contractor and client

The estimated duration of the development of the customised app for IOS is approx. 6 weeks.

This agreement applies for both, the Android OS and the IOS version of the Customised Application.

**List of the devices on which the application will run without any problem:**

All Android and IOS powered smart phones with identified Bluetooth protocol running the version of the software the app was designed for, as defined in Article 9 of the Agreement, with an exception of devices whose software is in any way incapable of running the app due to a manufacturing defect or any kind of bug caused by the user or manufacturer of the smart phone.

**Acceptance Requirements:**

**1. Beta Version**

- a) All requested functionality is implemented, accessible and operating without problems.
- b) The user interface is user friendly.
- c) The App is branded according to the client's specification and by using the supplied pantone.

**2. Final Version**

- a) All requested functionality is implemented, accessible and operating without problems.
- b) The user interface is user friendly.
- c) The App is branded according to the client's specification and by using the supplied pantone.
- d) All identified bugs have been fixed.

**Pre-existing patents**

In case a third party complains that the customized app violates their rights secured by a patent, the Contracting Parties agree to find a way of modifying the app in order not to infringe on the patent any more.

**Branding, advertising and sale:**

The customised app will be branded with logo, icon and colors of Adaptive Resilience. The Client's designer will provide you with the colors, pantone and logo. The Client will decide on overall look of the APP. The Contractor will specify the file format required for the programmers. The Client will sell the customised app from our website(s). The

Initials:

P.W.

Peter Gruenewald



Petr Kolman

Client will advertise the customised app. on and off line. The recommended retail price will be determined by Adaptive Resilience Ltd.

### **Development plan, timeline and costing**

The Contractor will complete the development of the Customised Application for the Android Platform within 8 weeks from receiving initial payment. A further month for testing will be required.

The development of the IOS version will start approximately 6 weeks after signing this contract and will be completed within a further 8 weeks. A further month for testing will be required.

### **Taster app (pre- purchase)**

A function will be made available that allows designated users to pre - purchase the app, so that an elective group of people can access the full functionality through a provided code.

We will make available part functionalities of the app; the full functionality will be unlocked upon purchase.

### **Further developments and future collaboration**

We aim for future collaboration to widen the scope of the training provided by the app. and/or to develop other associated training apps.

This includes, but is not limited to:

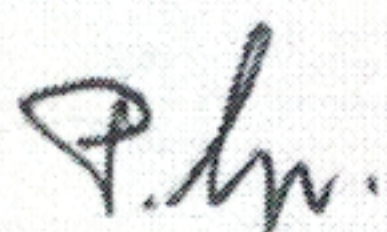
- 1 Research and development
- 2 Continuous improvement of app based on research and technological development, concerning
  - a. Trainings
  - b. Autonomic assessment
  - c. User interface
- 3 Extending functionality (e.g. journaling techniques)
- 4 Developing games
- 5 Extension into IOS and desktop bases applications (software)

**Sensor:** Smartphone camera, Bluetooth belt, Bluetooth Plethysmograph

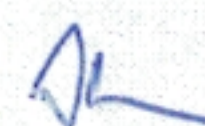
**Memory function:** Data collection on device and in cloud

11 of 35

Initials:



Peter Gruenewald



Petr Kolman

**Data:** stored on device and in cloud, exportable as spreadsheet from device & cloud

**Reminder and rewards:** by email

**Cloud:** data storage, rewards and reminder, comparison

**Measuring:** Measuring and recording of R-R Interval variations through Smartphone Camera, Oximeter Plethysmograph or Bluetooth ECG belt – HR, SDNN (time domain)

**Signal processing:** Fast Fourier Transform (FFT) (frequency domain)

**Frequency domain:**

- high frequency (HF) from 0.15 to 0.4 Hz
- low frequency (LF) from 0.04 to 0.15 Hz
- very low frequency (VLF) from 0.0033 to 0.04 Hz
- resonant frequency (RF) from 0.075Hz-0.15Hz
- total frequency (HF + LF + VLF)

The resonant frequency is part of the LF range:

In the graphic 'power spectrum density' both sections appear with different colour coding:

**LF<sub>1</sub> from 0.04 to 0.09Hz – red**

**RF (LF<sub>2</sub>) from 0.075 to 0.15Hz – gold (RF= LF<sub>2</sub>)**

**LF = LF<sub>1</sub> + LF<sub>2</sub> (RF)**

In tabular representations numeric LF and RF are calculated separately

Note:

**EI (Engagement Index):**  $RF / (TP - VLF)$  [%]

**RI (Relaxation Index):**  $HF / (TP - VLF)$  [%]

**Content and description of the application:**

1. **Sound and visually paced resonant frequency training** (at 4.5, 5, 5.5, 6, and 6.5 breath per minute) with HRV feedback through power distribution within the Resonant Frequency spectrum range [ $EI = RF / (TP - VLF)$ ] (RF = 0.075Hz – 0.15Hz). [amplitude and power at of peak frequency within RF range]. Assessment of individual resonant frequency by identifying highest amplitude at resonant frequency.
2. **Sound induced relaxation training** with feedback through total power spectrum density and High Frequency power distribution [ $RI = LF / (TP - VLF)$ ]. (LF=0.15Hz-0.4Hz)

3. **Autonomic assessment** with numeric display of the following parameters:

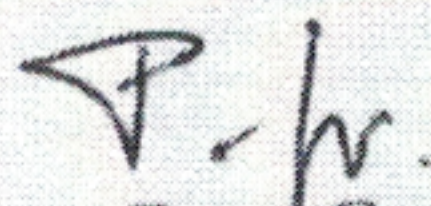
HR [bpm], SDNN [ms], TP [ $ms^2$ ], LF/HF, SpO2 [%], EI [%], RI [%], ApEn,

VLF [ $ms^2$ ], LF [ $ms^2$ ], HF [ $ms^2$ ], RF [ $ms^2$ ], VLF peak [Hz], LF peak [Hz],

HF peak [Hz], RF peak [Hz]

EI (Engagement Index):  $RF / (TP - VLF)$  [%]

Initials:



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On screen view of values during measurements in real time

Mean values at the end of measurement

4. **Data file of R-R intervals** exportable after each session
5. **Data log for autonomic assessment and Go- (Engagement) and Let Go (Relaxation) sessions.**
6. **Results listed by dates:**
  - a. On Screen view
  - b. Exportable as a CSV file
  - c. Stored in the cloud (data anonymised and available for customers, client and contractor)
7. **Disclaimers**
  - a. Not a medical diagnosis but an autonomic assessment
  - b. Training at own risk – need to consult with health professional
8. **Instructions, explanations and user manual**
  - a. A minimum of instructions and explanation will be given on screen
  - b. A user manual will be made available downloadable from a website for all customers via a direct link.
9. **Branding**
  - a. Name of application: Go & Let Go
  - b. Adaptive Resilience Logo
  - c. Adaptive Resilience Pantone (colours: white, blue and gold)
  - d. Adaptive Resilience Icon

## 10. User interface

- a. Registration details
- b. Menu and submenus

## 11. Engagement Training Screen (also: Go – Resonant Frequency Training)

- a. User name
- b. Age
- c. Stop
- d. Start / Send options / Safe in cloud / Exit
- e. Mute button for audio
- f. Exit
- g. Ring with duration (initially counting down to 0 and end of training displaying the duration of training)
- h. Plethysmograph
- i. Total time [sec]
- j. HRV power spectral density [LF – red [0.04-0.075Hz] / RF – gold [0.075Hz-0.15Hz] / HF - dark blue 0.15-0.4Hz]
- k. Heart Rate Variability graph with SDNN – default but sliding
- l. Above HRV graph: peak value [ $\text{ms}^2$ ] (to identify individual resonant frequency)
- m. Poincare plot – sliding
- n. Bulls eye (for breath pacing) – left side [gold, white]
- o. SDNN [%] – left side
- p. Heart Rate [BPM] – left side
- q. SpO2 [%] – right side
- r. Engagement Index [%] (gold, white or grey with %)
- s. (i) icon for information

## 12. Relaxation Training Screen (also Let Go – Relaxation Training)

- a. User name
- b. Age
- c. Stop

- d. Mute button for audio
- e. Exit
- f. Start / Send options / Safe in cloud / Exit
- g. Ring with duration (initially counting down to 0 and end of training displaying the duration of training)
- h. Plethysmograph
- i. Total time [sec]
- j. HRV power spectral density [LF – red [0.04-0.075Hz] / RF – gold [0.075Hz-0.15Hz] / HF - dark blue 0.15-0.4Hz] – default, but sliding
- k. Heart Rate Variability graph with SDNN sliding
- l. Poincare plot – sliding
- m. ANS balance
- n. Heart Rate [BPM] – left side
- o. SpO2 [%] – left side
- p. Physical Index [%] – right side
- q. Relaxation Index [%] (blue, white or grey with %)
- r. (i) icon for information

### 13. Autonomic assessment Screen

- a. User name
- b. Date
- c. Time
- d. Age
- e. Stop
- f. Exit
- g. Ring with duration (initially counting down to 0 and end of training displaying the duration of training)
- h. Plethysmograph
- i. Total time [sec]

Essential	Auxiliary
HR [bpm]	VLF [ms <sup>2</sup> ]
SDNN [ms]	LF [ms <sup>2</sup> ]
TP [ms <sup>2</sup> ]	HF [ms <sup>2</sup> ]
LF/HF	RF [ms <sup>2</sup> ]
EI [%]	VLF peak [Hz]
RI [%]	LF peak [Hz]
SpO2 [%]	HF peak [Hz]
ApEn	RF peak [Hz]

#### 14. Log Screen with autonomic data and data from training sessions

- a. Name
- b. Age
- c. Date of measurement or training
- d. Time of measurement or training
- e. Autonomic data for assessment: all (Essential & Auxiliary Data)
- f. Autonomic data for engagement training: EI [%], RF peak [Hz], SDNN [ms], SpO2, mean HR [bpm]
- g. Autonomic data for relaxation training: RI [%], HF peak [Hz], SDNN [ms], LF/HF, SpO2 [%], mean HR [bpm]
- h. Scrollable (dates)
- i. Exportable as a CSV file
- j. Data can be deleted on log screen

#### 15. Programmable sound files

- i. Importing sound file function
- ii. Multiple sound files importable
- iii. Phasing in and out
- iv. Duration of loops programmable

## 16. Exercise scheduling

- a. Reminder by email, screen popup and sound

Mutable and suppressible

### Go & Let Go

The application will have the following functionalities:

- 14 Relaxation training
- 15 Engagement training
- 16 Autonomic wellness assessment
- 17 A Log function for all activities over time described above (1-3) stored and accessible on device and in the cloud
- 18 Data exportable (R-R intervals)
- 19 Built in programmable audio training (loop of short file, duration and fade in and out programmable)
- 20 Exercise scheduling that incorporates email reminders and rewards
- 21 Compatibility for blue tooth Plethysmograph and ECG belt e.g. polar H7
- 22 Use of smartphone camera for free of charge trial version and paid version
- 23 The ability to project the screen image onto a wall (digital projection) and if possible display on a laptop or desktop computer.
- 24 Access to cloud for customers and client (Data is available for client and contractor for the purpose of research and product improvement)
- 25 Compliance with the European data protection act
- 26 Disclaimers and permissions regarding the use of the application through the customer and the use of the anonymous data by contractor and client

### Platforms:

Mobile App for IOS and Android

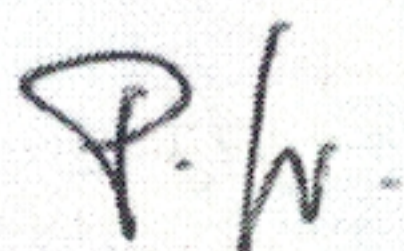
### Branding, advertising and sale:

The customised app will be branded with logo, icon and colors of Adaptive Resilience. The Client's designer will provide you with the colors, pantone and logo. The Client will decide on overall look of the APP. The Contractor will specify the file format required for the programmers. The Client will sell the customised app from our website(s). The Client will advertise the customised app. on and off line. The recommended retail price will be determined by the Client.

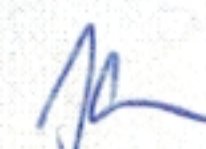
### Pre- existing patents

The Contractor will assure that the customised app does not infringe on existing patents, including the US market.

Initials:



Peter Gruenewald



Petr Kolman

### **Development plan, timeline and costing**

The Contractor will complete the development within 8 weeks from receiving initial payment. A further month for testing will be required.

### **Taster app (pre- purchase)**

A function will be made available that allows designated users to pre - purchase the app, so that an elective group of people can access the full functionality through a provided code.

We will make available part functionalities of the app; the full functionality will be unlocked upon purchase.

### **Further developments and future collaboration**

We aim for future collaboration to widen the scope of the training provided by the app. and/or to develop other associated training apps.

This includes, but is not limited to:

- 6 Research and development
- 7 Continuous improvement of app based on research and technological development, concerning
  - a. Trainings
  - b. Autonomic assessment
  - c. User interface
- 8 Extending functionality (e.g. journaling techniques)
- 9 Developing games

## Desktop

Start – (opens Menu)

See below

E-shop – website

Information

User manual

Read, download and/or send by email as PDF file

History (sliding)

- **Essential Data**
- **Additional Data**

Tables (see below)

- Erase data
- Export data (as spread sheet)

## History

Table (sliding, last five columns visible by default, max. 6-weeks data)

Essential data					
Date	06.03.2016				
Time	8.30am				
Duration (min)	20				
HR [bpm]	0	0	0	0	0
SDNN [ms]	0	0	0	0	0
TP [ms <sup>2</sup> ]	0	0	0	0	0
LF/HF	0	0	0	0	0
SpO2 [%]	0	0	0	0	0
EI [%]	80%	0	0	0	0
RI [%]	0	0	0	0	0
EXPORT					

Additional Data					
Date	06.03.2016				
Time	8.30pm				
Duration	20				
VLF [ms <sup>2</sup> ]	0	0	0	0	0
LF [ms <sup>2</sup> ]	0	0	0	0	0
HF [ms <sup>2</sup> ]	0	0	0	0	0
RF [ms <sup>2</sup> ]	0	0	0	0	0
VLF peak [Hz]	0	0	0	0	0
LF peak [Hz]	0	0	0	0	0
HF peak [Hz]	0	0	0	0	0
RF peak [Hz]	0	0	0	0	0
EXPORT					

## Menu

Looking for Bluetooth device / Paired with belt or Plethysmograph

### Current User

Back / Add / Remove

List of names

### Devices

Back / Remove

List of devices

Camera

Belt

Plethysmograph

### Health Assessment

#### Time length

- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes (default)

Start button

Disclaimer (tic right answer, then start)

Go

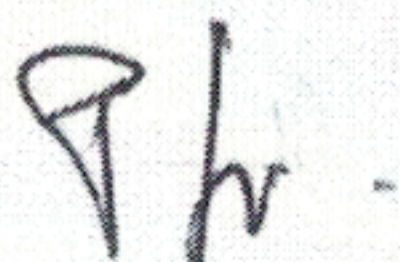
#### Breathing cycles/minute

- RF Assessment (10min)
- 4.5
- 5
- 5.5
- 6
- 6.5

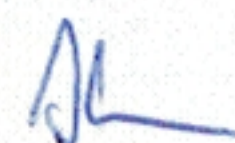
#### Time length

- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes

Initials:



Peter Gruenewald



Petr Kolman

## Resonant Frequency Training

Start button

Disclaimer (tic right answer, then start)

## Let Go – Relaxation Training

### Time length

- 5 minutes
- 10 minutes
- 15 minutes
- 20 minutes

### Instrument

- Marimba (120 beats per minute)
- Drum (30 beats per minute)
- Marimba and drum combo

Start button

Disclaimer (tic right answer, then start)

## Application Settings (tick box)

### Tutorial

- General Instructions
- Health Assessment
- Go – Resonant Frequency Training
- Let go – Relaxation Training

### Bluetooth Quick Connect

Skip slide

## My schedule

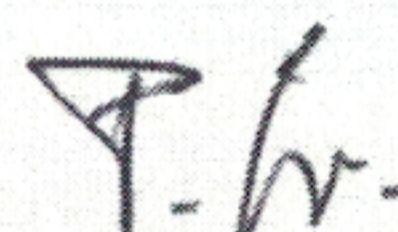
- Health assessment schedule
- Go – Resonant Frequency Training
- Let Go – Relaxation Training

- Schedule date for next session (diary opens to select date)
- Schedule time
- How frequently

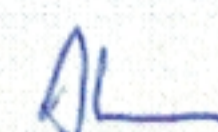
1x a week

22 of 35

Initials:



Peter Gruenewald



Petr Kolman

1x every 2 weeks

1x every 3 weeks

1x a month

➤ **Reminder**

by pop up on device

by email

➤ **Time period before schedule time**

10 minutes before scheduled time

30 minutes before scheduled time

60 minutes before scheduled time

120 minutes before schedule time

➤ **Enable / Disable reminder**

## Personal Settings

### Option for sending data

Enable or disable sending measured data (tic box)

### Age

Define your age (its required for algorithms)

Insert (number pad for age selection)

Save / Cancel

### Gender

Male / Female / Other

### Name

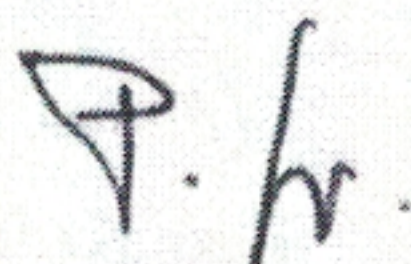
Your name or initials (optional)

Insert (letter keyboard)

OK / Cancel

23 of 35

Initials:



Peter Gruenewald



Petr Kolman

## Email

Your email

Insert (letter keyboard)

OK / Cancel

## Signal log

Enable or disable R-R interval log (tick box)

## Access code

Access code for archiving data on the server

Access code (number pad)

OK / Cancel

## Information Page

### Limit hand movement

Try to limit movements of your hand throughout the measurement. This will reduce the error rate and increase the accuracy of your results.

### Health Assessments

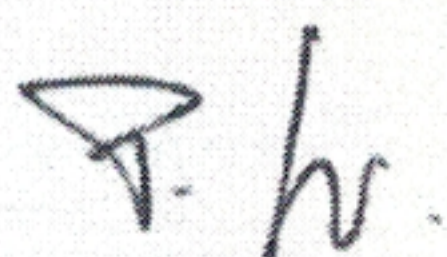
For health assessments preferably use the Bluetooth belt and preferably a duration of 20 minutes. The health assessment should be performed sitting and to compare the different measurements to track your health it is advised to do it at the same time of the day an day, preferably after rising.

### Cloud feature

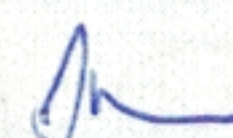
Your results are anonymously uploaded to your cloud account when you receive and enter your activation code for the cloud feature.

By entering the activation code into the app you give permission to use your anonymous data for research and development. Your data will be linked to your chosen username, but not to any information that can identify you.

Initials:



Peter Gruenewald



Petr Kolman

The cloud will allow you to access all your past training and assessment results and will also help you to maintain practice by sending you reminders and rewards after you have defined your training schedule. This feature can be paused or disabled via the **training schedule page**.

You can view, download and email the manual for this app [here](#).

**How to assess your individual resonant frequency.**

### **Screens:**

- **Health Assessment**
- **Go – Resonant Frequency Training**
- **Let Go – Relaxation Training**
- **Log for assessment and training**

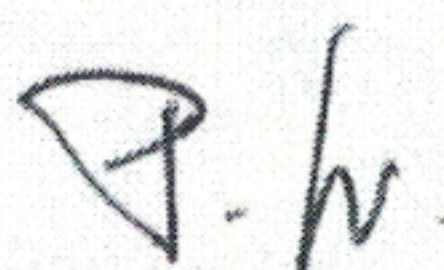
**Name:**

**Age:**

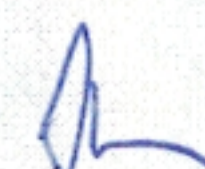
**The following icons appear at the ned of measurement:**

**Triangle- Start / Tripod- Send options (default) / Cloud - Safe to cloud / X - Exit**

Initials:



Peter Gruenewald



Petr Kolman

# I Health Assessment Screen

ψ 16 11:14

Name: Petr Alter: 30

Anfang Teilen Sie Messung schicken In den Geschichte speichern Beenden

Plethysmogram

duration Dauerzeit: 132 s

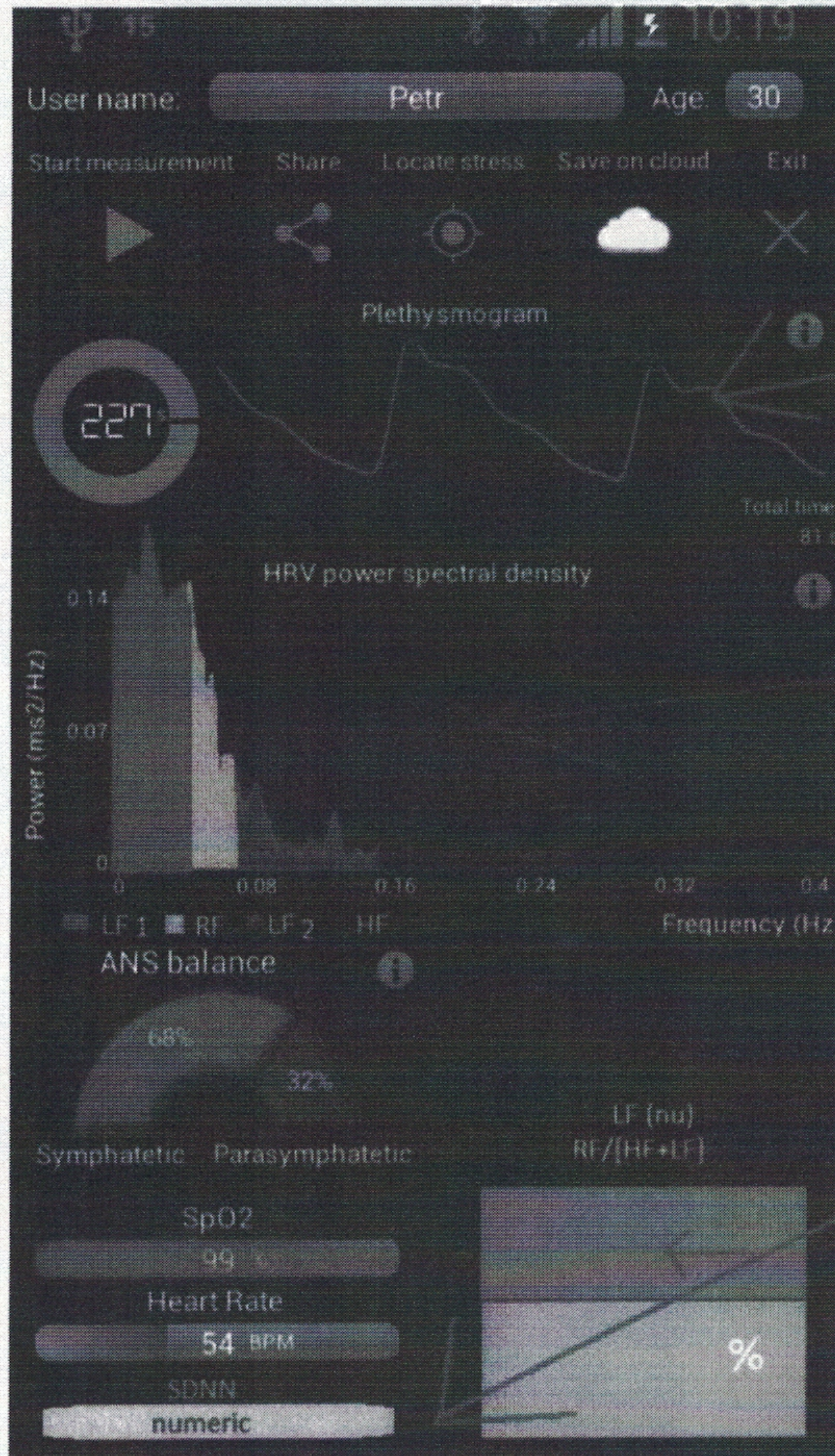
HR [bpm]	56	(i)	VLF [ $ms^2$ ]	(i)
SDNN [ms]	34	(i)	LF [ $ms^2$ ]	(i)
TP [ $ms^2$ ]		(i)	HF [ $ms^2$ ]	(i)
LF/HF ratio		(i)	RF [ $ms^2$ ]	(i)
SpO2 [%]		(i)	VLF peak [Hz]	(i)
EI [%]		(i)	LF peak [Hz]	(i)
RI [%]		(i)	HF peak [Hz]	(i)
ApEn		(i)	RF peak [Hz]	(i)

*When the screen appears upon finishing the engagement or recovery training, the duration field should show the duration of the training in seconds.*

*For the health assessment the the duration field displays a countdown in seconds to 0. When it has reached end of the assessment it should show the duration of the measurements in seconds. This is useful when the screen snapshot is being emailed.*

*The icons on the top, should appear at the end of the measurement.*

## II Go – Resonant Frequency Training



ANS balance, SpO<sub>2</sub>, heart rate and SDNN (graphic and numeric).

The red area for sympathetic activity needs to move to the left edge of the graph, there should be no gap between the axis and the start of low frequency. (no VLF)

The box on the right should be GOLD on white background. We will provide the pantone for the colours. The legend should be at the bottom of the box.

Please note:

28 of 35

Initials:

Ph

Peter Gruenewald

PK

Petr Kolman

Sound: mute / sound on

The system should always default towards sound on, but there should be a possibility to switch it off.

The icons of the graphic on the top should appear in the same way as described above.


**Power density graph (for both Go – RFT and Let Go – Relaxation)**

LF 0.04-0.09Hz - red

RF 0.09-0.15Hz - gold

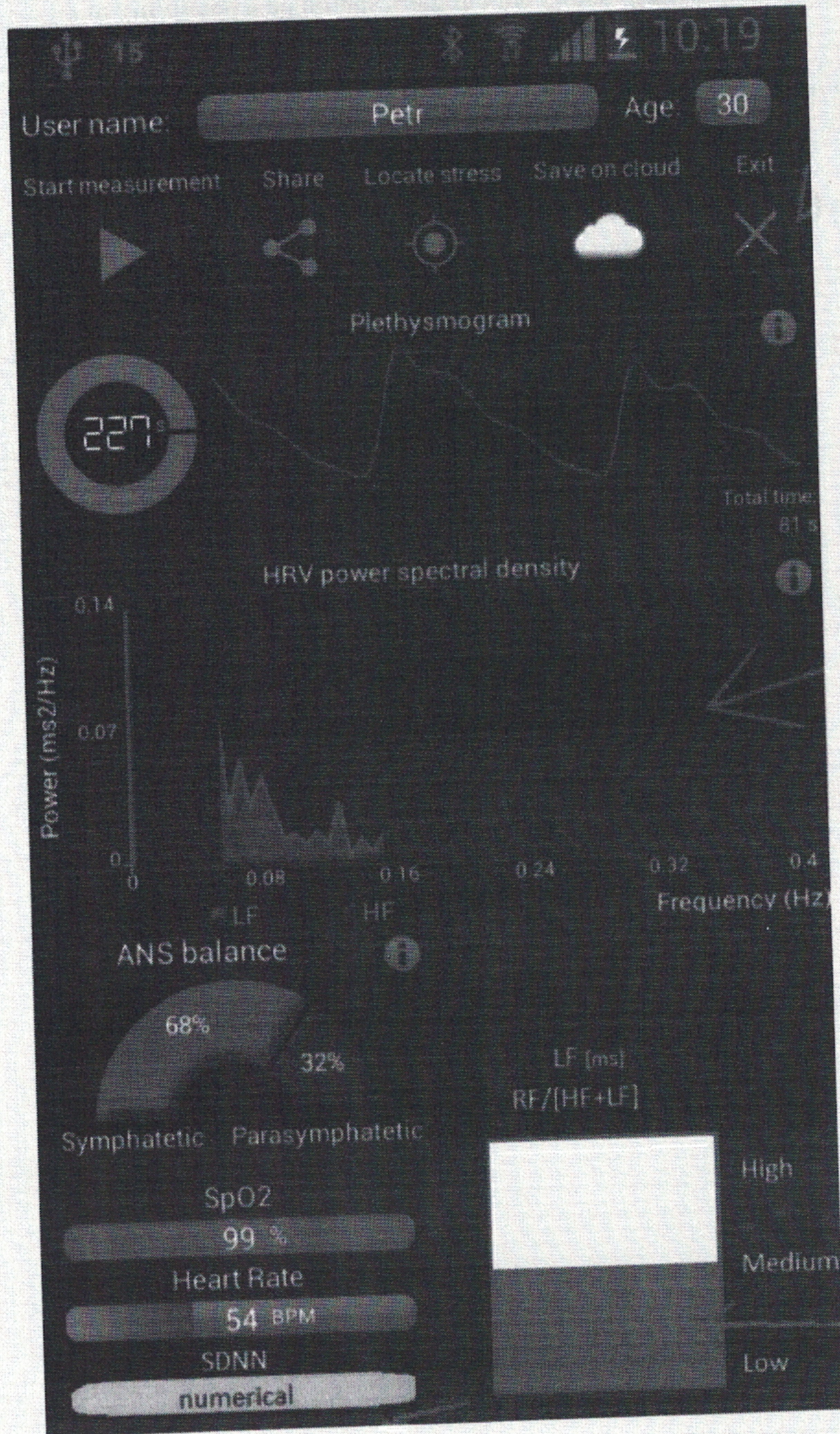
HF 0.15-04Hz - blue

Initials:

  
Peter Gruenewald

  
Petr Kolman

# III Let Go - Relaxation Training



Initials:

*Pg*  
Peter Gruenewald

*P*  
Petr Kolman

**Power density graph (for both Go – RFT and Let Go – Relaxation)**

LF 0.04-0.09Hz - red

RF 0.09-0.15Hz - gold

HF 0.15-04Hz – blue

ANS balance, SpO2, heart rate and SDNN (graphic and numeric).

The red area for sympathetic activity needs to move to the left edge of the graph, there should be no gap between the axis and the start of low frequency. (no VLF)

The box on the right should be dark blue on white background. We will provide the pantone for the colours. The legend should be at the bottom of the box.

**Please note:**

Sound: mute / on

The system should always default towards sound on, but there should be a possibility to switch it off.

The icons of the graphic on the top should appear in the same way as described above.

# Health Assessment & Training Log

Date	03. 02. 2016	Date 2	Date 3	Date 4	Date 5
Time	7:45am	Time	Time	Time	Time
Duration	30 minutes	Duration	Duration	Duration	Duration

## Health Assessment

HR [bpm]					
SDNN [ms]					
TP [ms <sup>2</sup> ]					
LF/HF ratio					
SPO <sub>2</sub>					
VLF [ms <sup>2</sup> ]					
LF [ms <sup>2</sup> ]					
HF [ms <sup>2</sup> ]					
RF [ms <sup>2</sup> ]					
VLF peak					
LF peak					
HF peak					
RF peak					
ApEn					

## Go – Resonant Frequency Training [RFT] – Engagement Index [EI]

EI [%]					
--------	--	--	--	--	--

## Relaxation Training [RT] – Recovery Index [RI]

RI [%]					
--------	--	--	--	--	--

Erase history

Initials:

*Ph.*

Peter Gruenewald

*PK*  
Petr Kolman

#### IV Health Assessment and training log

The history should be for a period of 8 weeks only.

There should also be an option to erase the history – (Bottom field)

When clicking on 'Erase history', a window should open:

Do you want to erase history?

Cancel / Yes

Please keep duration on the top for health assessment and audio trainings

## Let Go - Relaxation Training

When practicing this exercise, listen to the panning sound (right - left). Select the sound that suits you best. A fast and high pitched sound may help, when you are feeling overexcited, the slower and lower pitched sound, may have a profoundly calming effect. You can choose a fast tone initially and then change to a slower tone after a while.

This bilateral sound has a *relaxing effect* and can *release anxiety and stress*. Bilateral sound enhances the activity of your parasympathetic nervous system to aid recovery.

This listening exercise helps to *wind down* or *prepare for good night sleep*.

Over time it may build up your *capacity to recover and bounce back* quickly from stress and strain.

### Enhancement of bilateral experience

To enhance the effect, you may imagine, how you feel the vibration of the tone in your right foot and leg, when hearing the sound in your right ear, and on the left side vice versa. Following the direction of the sound purposefully, can reduce distress.

### Your favourite safe place

As you listen to the bilateral sound, imagine that you are in your favourite safe space. Describe it to you. Where is it? What do you see, hear, feel, smell and taste? You can visit this safe place in your mind any time you wish to retreat.

### Transforming tension

Should you suffer with physical tension, discomfort or pain rate its intensity on a scale of 1 (low) and 10 (severe). Now focus on the sensation of tension, stress and pain, whilst listening to the bilateral sound. Alternate your focus between tension and/or pain and bilateral sound, the focus on both simultaneously again. Now score the intensity again (1-10). Now focus on the sound only and/or retreat into your safe space.

Initials:

Peter Gruenewald

Petr Kolman

## Go - Resonant Frequency Training 0.1Hz

This training trains physiological resilience by increasing flexibility and adaptability of the organism. Practicing this training for 6 to 8 weeks has shown to enhance resilience, and helps to perform better and make better judgements and decisions in challenging circumstances. It also has a number of health benefits, such as improved stress tolerance, improvement of mood, helping to effectively regulate and harnessing the energy of extreme emotions, such as anxiety and anger. It also trains a physiological state of engagement and sustainable peak performance.

### Instruction:

**Breathe in: 5 seconds – Breathe out: 5 seconds**

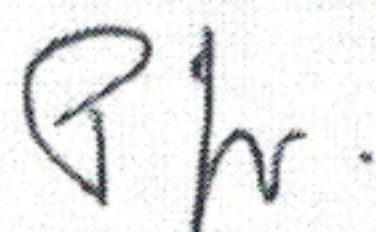
**Breathe in** - on the lower tone 'C' - heard in your *left ear*

**Breathe out** - on the higher tone 'G' - heard in your *right ear*

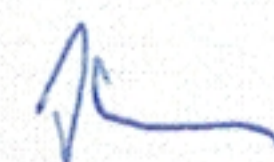
Practice this exercise sitting or standing. Breathe gently through your nose in and out. Breathe with your diaphragm. Gently fill your lungs from the bottom up with air (up to 75% filling), then gently and smoothly exhale.

If you should feel dizzy, you may hyperventilate, in which case you need to stop with the exercise. When you start again, attempt to breathe more shallowly, filling your lungs with less air.

Initials:



Peter Gruenewald



Petr Kolman