

BFR Exerciser App

Usability Test Plan

UX Consultant

Siddhesh Mahadeshwar

Development Team

Akshay Kumar Dosapati

Ben Cauley

Conner Bodell

Dane Dingman

Ian Hanby

Seth Stajdl

Tony Garnett

Usability Test – Scenario 1

- Scenario name
Athletic injury treatment by a physiotherapist

- Test Goals for the scenario
The goal of this scenario is to understand how a physiotherapist treating an athlete's injury would utilize BFR to facilitate rapid recovery. Find out if this athlete can use BFR. If so, how exactly would he go about it?

- Scenario description
Imagine that you are a sports physiotherapist. Recently, a high-performance athlete has injured his foot (twisted his ankle) and needs to undergo rehabilitation with physiotherapy to have a rapid recovery for his condition. He needs to strengthen the neighboring muscles for this injured foot so that they can support the high-performance needs of his sport. Due to the significant drop in strength after his injury, using weights training is no longer a viable option for him. His physiotherapist recommends utilizing BFR to regain muscle strength without the need to depend on heavy external weights. As he is a competing professional athlete, his body is in a healthy condition, but he has diabetes. The physiotherapist does not have any budget limitations so they can use the latest and greatest automated technologies if needed. Going through the BFR Exerciser App, find out if this candidate is truly eligible. If yes, what technologies would he use? What would the instructions be?

- Any software or equipment required for the testing
Zoom Conferencing Software

- Quantitative measurement list
 - Time taken to complete one iteration of the app from the home screen to the final screen
 - Time spent in total on the app's Help page
 - Time spent on the app's screening page
 - Time spent on any of the app's final pages:
 - Automatic Pneumatic Cuff System page with manufacturers
 - Manual Pneumatic Cuff System input page before recommended AOP result is displayed
 - Knee wrap/band instructions page

- Task list (starting from the home screen page)
 - Go to “Access Help Page”
 - Return to “Homepage”
 - Go to “Access Medical Screening”
 - Select options from the screening list (if applicable)
 - Click “Submit”
 - Only 1 option should be available to choose (automated cuff)
 - Select 1 of the several options for tools to administer BFR (on the automated cuff system - each link will take the user to a reliable manufacturer’s official page)
 - This is where 1 iteration of the application’s use would end
 - The user may either click on “Access Help Page” or return to the Homepage from this point

- Qualitative measurement list
 - Number of times the user seemed visibly confused or lost
 - Number of times the user attempted to click on areas or attempted actions that are not programmed in the app’s functionalities
 - Number of times the user attempted to go to a previous screen (either due to a mis-click or otherwise)
 - Number of times the user appeared unsure about the result of a button click

- Potential observations of participant
 - Visual facial cues indicating confusion
 - Time-based cues of the user being stuck or unresponsive on a given page
 - Visual cues for emotional changes that the user experiences on pages or prompts in the app

- Test set up details
 - Zoom should be installed on the user’s computer beforehand as the test will be administered over this platform
 - User shares screen before starting the test
 - Any operating system will work
 - Any browser will work

- Post-scenario Interview
 - How was your overall experience using the app?
 - Did you feel lost/confused at any point during the test?
 - Was the Help Page useful in obtaining a better general understanding?
 - Did you feel the need to access the Help Page at any point? Was it available?
 - Assuming you chose the automated cuff system path, did the information on this page meet your expectations?
 - Was sufficient information available to you about the functionality of the automated cuff system?
 - Did you understand the purpose of the automated cuff system?
 - Was your experience mostly bug-free?
 - Are there any other suggestions you have for us to improve our app?

Usability Test – Scenario 2

- Scenario name
Post-accident injury treatment by a personal trainer

- Test Goals for the scenario
The goal of this scenario is to understand how a personal trainer would treat a woman using BFR to facilitate muscle strengthening. Find out if this woman can use BFR. If so, how exactly would she go about it?

- Scenario description
Imagine that you are a personal trainer. Recently, a patient had an unfortunate bicycle accident that severely damaged her left leg (the side that she fell on). Her BMI is in the 25-30 range, and she is unable to walk without excruciating pain due to this injury. There is no skeletal damage. However, the muscles in her left leg have been severely hurt and weakened due to this accident. She needs to regain strength in this leg to be able to walk without aid and pain. Her personal trainer recommends using BFR to regain this strength without having to rely on weights training. Beyond her BMI being in the 25-30 range, she does not have any preexisting conditions. This personal trainer has used BFR before and already has some manual use technologies and tools to carry out BFR. Going through the BFR Exerciser App, find out if this candidate is truly eligible. If yes, what technologies would she use? What would the instructions be?

- Any software or equipment required for the testing
Zoom Conferencing Software

- Quantitative measurement list
 - Time taken to complete one iteration of the app from the home screen to the final screen
 - Time spent in total on the app's Help page
 - Time spent on the app's screening page
 - Time spent on any of the app's final pages:
 - Automatic Pneumatic Cuff System page with manufacturers
 - Manual Pneumatic Cuff System input page before recommended AOP result is displayed
 - Knee wrap/band instructions page

- Task list (starting from the home screen page)
 - Go to “Access Help Page”
 - Return to “Homepage”
 - Go to “Access Medical Screening”
 - Select options from the screening list (if applicable)
 - Click “Submit”
 - Select 1 of 2 options to administer BFR from the “Risk Level Evaluation Form” (mostly likely manual cuff system based on the scenario)
 - Go through the manual cuff form by filling out the patient’s details to have a recommend AOP level based on risks
 - This is where 1 instance of the application’s use would end
 - The user may either click on “Access Help Page” or return to the Homepage from this point

- Qualitative measurement list
 - Number of times the user seemed visibly confused or lost
 - Number of times the user attempted to click on areas or attempted actions that are not programmed in the app’s functionalities
 - Number of times the user attempted to go to a previous screen (either due to a mis-click or otherwise)
 - Number of times the user appeared unsure about the result of a button click

- Potential observations of participant
 - Visual facial cues indicating confusion
 - Time-based cues of the user being stuck or unresponsive on a given page
 - Visual cues for emotional changes that the user experiences on pages or prompts in the app

- Test set up details
 - Zoom should be installed on the user’s computer beforehand as the test will be administered over this platform
 - User shares screen before starting the test
 - Any operating system will work
 - Any browser will work

- Post-scenario Interview
 - How was your overall experience using the app?
 - Did you feel lost/confused at any point during the test?
 - Was the Help Page useful in obtaining a better general understanding?
 - Did you feel the need to access the Help Page at any point? Was it available?
 - Assuming you chose the manual cuff system path, did the information on this page meet your expectations?
 - Was sufficient information available to you about the functionality of the manual cuff system?
 - Did you understand the purpose of the manual cuff system?
 - Was your experience mostly bug-free?
 - Are there any other suggestions you have for us to improve our app?

Usability Test – Scenario 3

- Scenario name
Muscle strengthening by a performance coach

- Test Goals for the scenario
The goal of this scenario is to understand how a performance coach would help his athlete grow his muscles incrementally in the middle of a season without altering his weights training program. Find out if this athlete can use BFR. If so, how exactly would he go about it?

- Scenario description
Imagine that you are a performance training coach for an athlete in their 40-50s age. You have realized mid-season that your athlete is lacking lower body strength as they play basketball, and this is preventing them from achieving a sufficient vertical jump on rebound shots. As the team's season is ongoing, changing his weights training program would be unadvisable. Instead, you want to incrementally promote muscle growth while continuing with the same program. This athlete is competing at a professional level with no known preexisting health conditions that would prevent him from using BFR except for his age. You are considering using the most mobility friendly tool from BFR technologies that could be utilized even during regular training sessions. Using high-tech machines or needing wires leading from the tools would not be helpful. There is an option within BFR technologies that could be a perfect fit for this situation. Going through the BFR Exerciser App, find out if this candidate is truly eligible. If yes, what technologies would he use? What would the instructions be?

- Any software or equipment required for the testing
Zoom Conferencing Software

- Quantitative measurement list
 - Time taken to complete one iteration of the app from the home screen to the final screen
 - Time spent in total on the app's Help page
 - Time spent on the app's screening page
 - Time spent on any of the app's final pages:
 - Automatic Pneumatic Cuff System page with manufacturers
 - Manual Pneumatic Cuff System input page before recommended AOP result is displayed
 - Knee wrap/band instructions page

- Task list (starting from the home screen page)
 - Go to “Access Help Page”
 - Return to “Homepage”
 - Go to “Access Medical Screening”
 - Select options from the screening list (if applicable)
 - Click “Submit”
 - Select 1 of 3 options to administer BFR from the “Risk Level Evaluation Form” (mostly likely knee wrap/band based on the scenario)
 - Go through the instructions given on the knee wrap/band page
 - This is where 1 instance of the application’s use would end
 - The user may either click on “Access Help Page” or return to the Homepage from this point

- Qualitative measurement list
 - Number of times the user seemed visibly confused or lost
 - Number of times the user attempted to click on areas or attempted actions that are not programmed in the app’s functionalities
 - Number of times the user attempted to go to a previous screen (either due to a mis-click or otherwise)
 - Number of times the user appeared unsure about the result of a button click

- Potential observations of participant
 - Visual facial cues indicating confusion
 - Time-based cues of the user being stuck or unresponsive on a given page
 - Visual cues for emotional changes that the user experiences on pages or prompts in the app

- Test set up details
 - Zoom should be installed on the user’s computer beforehand as the test will be administered over this platform
 - User shares screen before starting the test
 - Any operating system will work
 - Any browser will work

- Post-scenario Interview
 - How was your overall experience using the app?
 - Did you feel lost/confused at any point during the test?
 - Was the Help Page useful in obtaining a better general understanding?
 - Did you feel the need to access the Help Page at any point? Was it available?
 - Assuming you chose the knee wrap/band path, did the information on this page meet your expectations?
 - Was sufficient information available to you about the functionality of the knee wrap/band system?
 - Was the UI facilitating your experience as a user?
 - Was your experience mostly bug-free?
 - Are there any other suggestions you have for us to improve our app?

Usability Test – Scenario 4

- Scenario name
Muscle growth for a female client with blood clotting

- Test Goals for the scenario
The goal of this scenario is to understand how a personal trainer would help his client grow her muscles incrementally. Find out if this athlete can use BFR. If so, how exactly would she go about it?

- Scenario description
Imagine that you are a personal trainer for a female client who wishes to grow her muscle mass. She has had the goal of strengthening her muscles for several years now. However, she does not enjoy or thrive with weights training. She also has a bad memory of an accident with weights that occurred in her gym several years ago. As a personal trainer, you know that BFR could propose a solution to her goals and limitations. She can ultimately achieve her goal without needing to use heavy weights at all. She is young and healthy overall, but she does have a family history of clotting disorders such as hemophilia and high platelets. Going through the BFR Exerciser App, find out if this candidate is truly eligible. If yes, what technologies would she use? What would the instructions be?

- Any software or equipment required for the testing
Zoom Conferencing Software

- Quantitative measurement list
 - Time taken to complete one iteration of the app from the home screen to the final screen
 - Time spent in total on the app's Help page
 - Time spent on the app's screening page
 - Time spent on any of the app's final pages:
 - Automatic Pneumatic Cuff System page with manufacturers
 - Manual Pneumatic Cuff System input page before recommended AOP result is displayed
 - Knee wrap/band instructions page

- Task list (starting from the home screen page)
 - Go to “Access Help Page”
 - Return to “Homepage”
 - Go to “Access Medical Screening”
 - Select options from the screening list (if applicable)
 - Click “Submit”
 - No options should be available here based on the user’s high risk (based on the scenario)
 - Return to the home screen
 - This is where 1 instance of the application’s use would end
 - The user may either click on “Access Help Page” or return to the Homepage from this point

- Qualitative measurement list
 - Number of times the user seemed visibly confused or lost
 - Number of times the user attempted to click on areas or attempted actions that are not programmed in the app’s functionalities
 - Number of times the user attempted to go to a previous screen (either due to a mis-click or otherwise)
 - Number of times the user appeared unsure about the result of a button click

- Potential observations of participant
 - Visual facial cues indicating confusion
 - Time-based cues of the user being stuck or unresponsive on a given page
 - Visual cues for emotional changes that the user experiences on pages or prompts in the app

- Test set up details
 - Zoom should be installed on the user’s computer beforehand as the test will be administered over this platform
 - User shares screen before starting the test
 - Any operating system will work
 - Any browser will work

- Post-scenario Interview
 - How was your overall experience using the app?
 - Did you feel lost/confused at any point during the test?
 - Was the Help Page useful in obtaining a better general understanding?
 - Did you feel the need to access the Help Page at any point? Was it available?
 - Assuming you chose all the preexisting conditions as suggested in the scenario, did the information on this page meet your expectations?
 - Was the UI facilitating your experience as a user?
 - Was your experience mostly bug-free?
 - Are there any other suggestions you have for us to improve our app?

Pre-Testing Questionnaire

- 1) What is your level of education?
 - 1st Year
 - 2nd Year
 - 3rd Year
 - 4th Year
 - 4+ Year
 - Graduate

- 2) What gender would you identify yourself as?
 - Man
 - Woman
 - Prefer not to say
 - Other

- 3) Do you know what is Blood Flow Restriction (BFR)?
 - Yes
 - No

- 4) I am interested in participating in this usability test.
 - Strongly agree
 - Agree
 - Neutral
 - Disagree
 - Strongly disagree

Post-Testing Questionnaire

Please indicate your level of agreement to the following statements with 1 being “strongly agree” and 5 being “strongly disagree”. This will be available as a Google form or given to fill out via email.

- 1) Overall, this application was easy to use for the intended task.
- 2) Overall, I enjoyed using this application.
- 3) I would use this application again.
- 4) I understood the purpose of this application.
- 5) Imagining that I am the intended user, this application would be useful for me.
- 6) The application appears to solve a problem or facilitate an inconvenience.
- 7) The application appeared professional.
- 8) Without additional guidance, the application itself was clear to use.
- 9) I would recommend this application to a medical practitioner who may need such a technology.
- 10) The user interface and experience were well thought out even for people who may not have a technical background.

