

**Fitica**

**A Smartphone Fitness Application focused on Dieting**

# Usability Test Plan

**v1.1**

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## Document Overview

This document describes a test plan for conducting a usability test during the development of *Fitica*, a smartphone fitness application. The goals of usability testing include establishing a baseline of user performance, establishing and validating user performance measures, and identifying potential design concerns to be addressed in order to improve the efficiency, productivity, and achieving end-user satisfaction with staying motivated to keep a healthy diet and learning about the user’s diet and dieting in general.

The usability test objectives are:

* To determine design inconsistencies and usability problem areas within the user interface and content areas. Potential sources of error may include:
  + Navigation errors – failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
  + Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.
  + Control usage problems – improper toolbar or entry field usage.
* Exercise the application or web site under controlled test conditions with representative users. Data will be used to access whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.
* Establish baseline user performance and user-satisfaction levels of the user interface for future usability evaluations.

Fitica is intended for user groups from the younger demographic, including Young Adults, Teenagers, Young Parents and those who have a Hearing Impairment, with a focus on those who are struggling with staying on a diet and those who wish to learn more about their diet and dieting as a whole.

The participants of this Usability Test are expected to be members of the aforementioned User Groups. This means that this Usability Test is designed for young adults, young parents and those who have a hearing impairment and *TheGordonTeam* is expecting 10 participants in total. The Usability Tests will occur remotely between 22nd July 2022 to 29th July 2022.

## Executive Summary

The Usability Tests will be executed remotely and will not go for longer than 15 minutes. Furthermore, the features to be evaluated about Fitica during these tests are:

• The Logging/Registering process.

• The gamification elements of Fitica.

• The Recording and Automating process for user’s daily meals.

• Toggling Fitica’s notifications and Hearing accessibility features.

• Viewing an overall summary for a user’s current dieting habits.

• Learning more about dieting.

• Fitica’s Friending System Interface.

TheGordonTeam aims to use these evaluations to assess and improve on Fitica’s effectiveness in bringing easy-to-use, stress and error free usability goals.

Upon review of this usability test plan, including the draft task scenarios and usability goals for *Fitica*, documented acceptance of the plan is expected.

## Methodology

A maximum of 10 participants are expected to partake with this Usability Test. As it will be conducted remotely, each participant is expected to be in a quiet and stress-free environment when attending the test. Prior to the test, participants are expected to enter our Zoom Meeting or Blackboard Collaborate Meeting, which a link to will be provided by a team member of *TheGordonTeam*. Both options are available to suit the Participant’s preferences.

At the beginning of the test, the Facilitator will explain the purpose of the test and provide the Consent form for participating in this test. After the Consent form has been signed and verified, the Facilitator will ask the Participant about their demographic and background, which will be recorded by the 4 silent observers. Afterwards, the Facilitator will provide the link to the Fitica Prototype that is hosted on Figma via a browser such as Google Chrome or Opera.

Throughout the test, the Facilitator will ask you to complete various tasks on the Fitica prototype interface while 4 silent observers will take notes on the participants interactions with the prototype, as well as Participant’s feedback and thinking process in accomplishing the respective task. This information collection will help us assess the Participant’s satisfaction in using the interface.

Once all tasks are completed, the Facilitator will ask the Participant about their thoughts on the interface and any personal suggestions for improvement. This will help us identify any flaws and strengths in the prototype, as well as further assess Participant’s satisfaction with the interface.

### Participants

A maximum of 10 participants are expected, with 4 participants who represents Young Adults and Teenagers, 3 who represents Young Parents and 3 who represents young people with hearing impairments.

The participants' responsibilities will be to attempt to complete a set of representative task scenarios presented to them in as efficient and timely a manner as possible, and to provide feedback regarding the usability and acceptability of the user interface. The participants will be directed to provide honest opinions regarding the usability of the application, and to participate in post-session subjective questionnaires and debriefing.

*TheGordonTeam* will randomly select from their families, friends and other UNSW students who fit our aforementioned User groups. Each participant is expected to be somewhat familiar with how to interact with a smartphone and can understand basic written and spoken English sentences. Participants do not need to have background experience with dieting, nor do they need to be an expert in smartphones.

### Training

The participants will receive and overview of the usability test procedure, equipment and software. This includes teaching about how to access our prototyping software Figma, how to setup up Figma’s presenter view, and how to interact with Figma. Information on how to access Zoom or Blackboard Collaborate can be requested prior to the test by contacting one of the team members of *TheGordonTeam* via their contact details listed in the provided Consent Form.

### Procedure

Participants will take part in the usability test remotely over Zoom or Blackboard Collaborate. If the test is to be taken over Zoom, it will be at the link provided prior to the test by a *TheGordonTeam* team member. If the test is to be taken over Blackboard Collaborate, it will be taken in F16A Elly Dossetor’s Friday Tutorial Room. A Personal Computer with the Web site/Web application and supporting software will be used in a typical office environment. The participant’s interaction with the Web site/Web application will be monitored by the facilitator seated in the same office. Note takers and data logger(s) will monitor the sessions in observation room, connected by a one-way video camera feed. The test sessions will not be videotaped.

The remote meeting will allow for face cam and allow for Participants to communicate with the Facilitator via the Participant’s own microphone device. The Facilitator will also communicate with you via their own microphone.

The facilitator will brief the participants on the Web site/Web application and instruct the participant that they are evaluating the application, rather than the facilitator evaluating the participant. Participants will sign an informed consent that acknowledges: the participation is voluntary, that participation can cease at any time, and that the session will be videotaped but their privacy of identification will be safeguarded. The facilitator will ask the participant if they have any questions.

Participants will complete a pretest demographic and background information questionnaire. The facilitator will explain that the amount of time taken to complete the test task will be measured and that exploratory behavior outside the task flow should not occur until after task completion. At the start of each task, the participant will read aloud the task description from the printed copy and begin the task. Time-on-task measurement begins when the participant starts the task.

The facilitator will instruct the participant to ‘think aloud’ so that a verbal record exists of their interaction with the Web site/Web application. The observers will observe and enter user behavior, user comments, and system actions onto their own computers.

After each task, the participant will complete the post-task questionnaire and elaborate on the task session with the facilitator. After all task scenarios are attempted, the participant will complete the post-test satisfaction questionnaire.

Participants will take part in the usability test via remote screen-sharing technology. The participant will be seated at their workstation in their work environment. Verbal communication will be supported via telephone.

The facilitator will brief the participant and instruct that he or she is evaluating the Web site/Web application, rather than the facilitator evaluating the participant. Participants will complete a pretest demographic and background information questionnaire. Sessions will begin when all participant questions are answered by the facilitator. The facilitator will inform the participant that time-on-task will be measured and that exploratory behavior outside the task flow should not occur until after task completion.

The facilitator will instruct the participant to read aloud the task description from the printed copy and begin the task. Time-on-task measure will begin. The facilitator will encourage the participants to ‘think aloud’ and that a verbal record will exist of the task-system interaction. The facilitator will observe and enter user behavior and comments, and system interaction in a data logging application.

After each task, the participant will complete the post-task questionnaire and elaborate on the task session. After all tasks have been attempted, the participant will complete a post-test satisfaction questionnaire.

## Roles

The roles involved in a usability test are as follows. An individual may play multiple roles and tests may not require all roles.

### Trainer

* Provide training overview prior to usability testing

### Facilitator

* Provides overview of study to participants
* Defines usability and purpose of usability testing to participants
* Assists in conduct of participant and observer debriefing sessions
* Responds to participant's requests for assistance

### Data Logger

* Records participant’s actions and comments

### Test Observers

* Silent observer
* Assists the data logger in identifying problems, concerns, coding bugs, and procedural errors
* Serve as note takers.

**Test Participants**

* Provides overview of study to participants
* Defines usability and purpose of usability testing to participants
* Assists in conduct of participant and observer debriefing sessions
* Responds to participant's requests for assistance

### Ethics

All persons involved with the usability test are required to adhere to the following ethical guidelines:

* The performance of any test participant must not be individually attributable. Individual participant's name should not be used in reference outside the testing session.
* A description of the participant's performance should not be reported to his or her manager

## Usability Tasks

The task descriptions below are required to be reviewed by the application owner, business-process owner, development owner, and/or deployment manager to ensure that the content, format, and presentation are representative of real use and substantially evaluate the total application. Their **acceptance is to be documented** prior to usability test.

|  |  |
| --- | --- |
| TASK 1 | |
| Description | **Register a new Account** |
| Expected Length | < 1 minute |
| Task Scenario | After hearing about *Fitica*, you download the smartphone app and open it. You intend to use the functions that the app has to offer, which requires registering for an account. |
| Starting Page | Start Page with the Login and Register buttons. |
| Completion Criteria | Arrive at the Home Page with a new account. |
| TASK 2 | |
| Description | **Logout** |
| Expected Length | < 1 Minute |
| Task Scenario | Your friend wants to try out this fitness app on your phone. However, you are currently signed in and as such would like to logout of your current account so that your friend can register their own account. |
| Starting Page | Home Page |
| Completion Criteria | Start Page with the Login and Register buttons |
| TASK 3 | |
| Description | **Login to a pre-existing Account** |
| Expected Length | < 1 Minute |
| Task Scenario | You are a returning user of *Fitica* and have just finished re-downloading the smartphone app. You wish to use your pre-existing account rather than register for one such that you keep your existing progress. |
| Starting Page | Start Page with the Login and Register buttons. |
| Completion Criteria | Arrive at the Home Page with a pre-existing account. |
| TASK 4 | |
| Description | **Scanning Food via Barcode** |
| Expected Length | 1 Minute |
| Task Scenario | You have just finished eating breakfast. You would like to add what you’ve eaten today to your tracker app. You’ve bought this new breakfast cereal, have kept the packaging and would like to scan it rather than typing it in. |
| Starting Page | Home Page |
| Completion Criteria | Arrive at the “Scanned in” page from the regular recording page |
| TASK 5 | |
| Description | **Automate Food Recording via Barcode** |
| Expected Length | 1 Minute |
| Task Scenario | You are tired of repeatedly recording in your breakfast every single day, and would like to streamline the process. As such, you look for a way to schedule your next breakfast in advance by scanning a barcode and recording it to a daily schedule. |
| Starting Page | Home Page |
| Completion Criteria | Arrive at the “Scanned in” page from the automated recording page |
| TASK 6 | |
| Description | **Sending Friend Request** |
| Expected Length | 1 Minute |
| Task Scenario | You have just finished chatting to a friend about dieting and realised that you are both using the same *Fitica* app. They asked if you would like to add each other as friends so you can follow each other's dieting statistics. As such, you search for your Friend on the app to add them to your friends list. |
| Starting Page | Home Page |
| Completion Criteria | Send a Friend Request to Friend H |
| TASK 7 | |
| Description | **Accepting Friend Request** |
| Expected Length | <1 Minute |
| Task Scenario | Your Friend has notified you in real life that they have sent a friend request to you on *Fitica*. You now want to accept that Friend Request |
| Starting Page | Home Page |
| Completion Criteria | Accept Friend Request from Person A |
| TASK 8 | |
| Description | **Viewing Friend’s Dieting Statistics** |
| Expected Length | <1 Minute |
| Task Scenario | Your “Friend G” has just hit level 99 on *Fitica* and has an impressive Dieting Track Record. They start bragging it to you and you are unsure if they’re telling the truth. As such want to check your friend’s profile to see if it's true. |
| Starting Page | Home Page |
| Completion Criteria | View “Friend G” profile page. |
| TASK 9 | |
| Description | **Hearing Accessibility Feature** |
| Expected Length | < 1 Minute |
| Task Scenario | You have a hard time hearing the artificial trainer’s voice and as such would like to find a way to make it easier to understand what the artificial trainer is saying. |
| Starting Page | Home Page |
| Completion Criteria | Enable the Hearing Accessibility Feature. |
| TASK 10 | |
| Description | **Viewing Fitness Advice** |
| Expected Length | < 1 Minute |
| Task Scenario | You have just finished a day of logging your meals and want to see some advice on how your dieting journey has been going. |
| Starting Page | Home Page |
| Completion Criteria | Finish on the Statistics & Info page at the top and notice the artificial dietician’s advice. |
| TASK 11 | |
| Description | **Checking Personal Dieting Statistics** |
| Expected Length | < 1 Minute |
| Task Scenario | You have just finished a day of logging your meals. You want to compare today’s metrics to how you’ve been going throughout the past week to see if you’re improving your diet. |
| Starting Page | Home Page |
| Completion Criteria | Finish on the Statistics & Info page and scroll to the bottom. |
| TASK 12 | |
| Description | **Learning more about Dieting** |
| Expected Length | < 1 Minute |
| Task Scenario | After listening to *Fitica’s* artificial dietician’s advice, you are curious to learn more about it and other macronutrients like Carbohydrates, Fats and Proteins. |
| Starting Page | Home Page |
| Completion Criteria | Finish on any of the Macronutrient information pages |
| TASK 13 | |
| Description | **Disabling Notifications** |
| Expected Length | < 1 Minute |
| Task Scenario | You are tired of the smartphone applications constant reminders about your diet and wish for it to stop. As such, you look for a way to disable it. |
| Starting Page | Home Page |
| Completion Criteria | Disable the Hearing Accessibility Feature. |
| TASK 14 | |
| Description | **Gamification Elements** |
| Expected Length | < 1 Minute |
| Task Scenario | The weekend has just finished, and a new week has started. You’d like to check on what goals you have completed as well as what your next goals are. You also would like to see how many points you have accumulated from finishing all these goals since you’ve started using the application. |
| Starting Page | Home Page |
| Completion Criteria | Finish on the Task page and notice the experience bar at the top and the daily/weekly/monthly tasks at the bottom. |

## Usability Metrics

Usability metrics refers to user performance measured against specific performance goals necessary to satisfy usability requirements. Scenario completion success rates, adherence to dialog scripts, error rates, and subjective evaluations will be used. Time-to-completion of scenarios will also be collected. After the test, questions will be asked to measure any difficulties or dissatisfactions you had when using the prototype via a set of questions provided by the Facilitator.

### Scenario Completion

Each scenario will require, or request, that the participant obtains or inputs specific data that would be used in course of a typical task. The scenario is completed when the participant indicates the scenario's goal has been obtained (whether successfully or unsuccessfully) or the participant requests and receives sufficient guidance as to warrant scoring the scenario as a critical error.

### Critical Errors

Critical errors are deviations at completion from the targets of the scenario. Obtaining or otherwise reporting of the wrong data value due to participant workflow is a critical error. Participants may or may not be aware that the task goal is incorrect or incomplete.

Independent completion of the scenario is a universal goal; help obtained from the other usability test roles is cause to score the scenario a critical error. Critical errors can also be assigned when the participant initiates (or attempts to initiate) and action that will result in the goal state becoming unobtainable. In general, critical errors are unresolved errors during the process of completing the task or errors that produce an incorrect outcome.

### Non-critical Errors

Non-critical errors are errors that are recovered from by the participant or, if not detected, do not result in processing problems or unexpected results. Although non-critical errors can be undetected by the participant, when they are detected, they are generally frustrating to the participant.

These errors may be procedural, in which the participant does not complete a scenario in the most optimal means (e.g., excessive steps and keystrokes). These errors may also be errors of confusion (ex., initially selecting the wrong function, using a user-interface control incorrectly such as attempting to edit an un-editable field).

Noncritical errors can always be recovered from during the process of completing the scenario. Exploratory behavior, such as opening the wrong menu while searching for a function, will be coded as a non-critical error.

### Subjective Evaluations

Subjective evaluations regarding ease of use and satisfaction will be collected via questionnaires, and during debriefing at the conclusion of the session. The questionnaires will utilize free-form responses and rating scales.

### Scenario Completion Time (time on task)

The time to complete each scenario, not including subjective evaluation durations, will be recorded.

## Usability Goals

The next section describes the usability goals for *Fitica’s* interface.

### Completion Rate

Completion rate is the percentage of test participants who successfully complete the task without critical errors. A critical error is defined as an error that results in an incorrect or incomplete outcome. In other words, the completion rate represents the percentage of participants who, when they are finished with the specified task, have an "output" that is correct. Note: If a participant requires assistance in order to achieve a correct output, then the task will be scored as a critical error and the overall completion rate for the task will be affected.

**A completion rate of 100% is the goal for each task in this usability test.**

### Error-free rate

Error-free rate is the percentage of test participants who complete the task without any errors (critical **or** non-critical errors). A non-critical error is an error that would not have an impact on the final output of the task but would result in the task being completed less efficiently.

**An error-free rate of 80% is the goal for each task in this usability test.**

### Time on Task (TOT)

The time to complete a scenario is referred to as "time on task". It is measured from the time the person begins the scenario to the time he/she signals completion.

### Subjective Measures

Subjective opinions about specific tasks, time to perform each task, features, and functionality will be surveyed. At the end of the test, participants will rate their satisfaction with the overall system. Combined with the interview/debriefing session, these data are used to assess attitudes of the participants.

## Problem Severity

To prioritize recommendations, a method of problem severity classification will be used in the analysis of the data collected during evaluation activities. The approach treats problem severity as a combination of two factors - the impact of the problem and the frequency of users experiencing the problem during the evaluation.



### Impact

Impact is the ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion. There are three levels of impact:

* High - prevents the user from completing the task (critical error)
* Moderate - causes user difficulty but the task can be completed (non-critical error)
* Low - minor problems that do not significantly affect the task completion (non-critical error)

### Frequency

Frequency is the percentage of participants who experience the problem when working on a task.

* High: 30% or more of the participants experience the problem
* Moderate: 11% - 29% of participants experience the problem
* Low: 10% or fewer of the participants experience the problem

### Problem Severity Classification

The identified severity for each problem implies a general reward for resolving it, and a general risk for not addressing it, in the current release.

**Severity 1** - High impact problems that often prevent a user from correctly completing a task. They occur in varying frequency and are characteristic of calls to the Help Desk. Reward for resolution is typically exhibited in fewer Help Desk calls and reduced redevelopment costs.

**Severity 2** - Moderate to high frequency problems with moderate to low impact are typical of erroneous actions that the participant recognizes needs to be undone. Reward for resolution is typically exhibited in reduced time on task and decreased training costs.

**Severity 3** - Either moderate problems with low frequency or low problems with moderate frequency; these are minor annoyance problems faced by a number of participants. Reward for resolution is typically exhibited in reduced time on task and increased data integrity.

**Severity 4** - Low impact problems faced by few participants; there is low risk to not resolving these problems. Reward for resolution is typically exhibited in increased user satisfaction.

## Reporting Results

The Usability Test Report will be provided at the conclusion of the usability test. It will consist of a report and/or a presentation of the results; evaluate the usability metrics against the pre-approved goals, subjective evaluations, and specific usability problems and recommendations for resolution. The recommendations will be categorically sized by development to aid in implementation strategy. The report is anticipated to be delivered to the Project UCD Contact by 30th July 2022.