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|  | trackstudio |  |

A recording and mixing web application: Usability report

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|  | Beta Usability Test 2.0.0  March 8, 2016 |

Contents

[1 Usability test session information 3](#_Toc448423595)

[2 Purpose 3](#_Toc448423596)

[3 The test 4](#_Toc448423597)

[3.1 Station setup 4](#_Toc448423598)

[3.1.1 Testing materials 4](#_Toc448423599)

[3.2 Acquiring a tester 6](#_Toc448423600)

[3.3 Pre-test 6](#_Toc448423601)

[3.4 Usability test 6](#_Toc448423602)

[3.5 Post-test 6](#_Toc448423603)

[4 Results 7](#_Toc448423604)

[4.1 Demographic survey 7](#_Toc448423605)

[4.2 Task checklist 7](#_Toc448423606)

[4.3 Questionnaire responses 7](#_Toc448423607)

[4.3.1 What is your overall impression of trackstudio? 8](#_Toc448423608)

[4.3.2 What did you like the best? 8](#_Toc448423609)

[4.3.3 What did you dislike the most? 8](#_Toc448423610)

[4.3.4 Would you use trackstudio again? 9](#_Toc448423611)

[4.3.5 What would you like to see removed? 9](#_Toc448423612)

[4.3.6 What would you like to see improved? 10](#_Toc448423613)

[5 Proctor comments from user observations 10](#_Toc448423614)

[6 Suggested changes 12](#_Toc448423615)

[7 Conclusion 13](#_Toc448423616)

[8 Thoughts on Usability Testing 13](#_Toc448423617)

[9 Filled out usability documents 13](#_Toc448423618)

# Usability test session information

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| --- | --- |
| Date of Report: | Thursday April 14, 2016 |
| Date of Test: | Thursday April 7, 2016 |
| Location of Test: | Olsen Hall Rm. 109  University of Massachusetts Lowell  Lowell, Ma. |
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# Purpose

trackstudio, a music recording software, is untested in the world; therefore a user’s perspective on implemented features as well as general usability need to be gathered to direct the project towards appealing to its demographic base. To do this we implemented a usability test, with the goal of examining the user interface, as well as existing features. We wanted to see if trackstudio was intuitive and if anything was blocking application usage.

# The test

## Station setup

We set up two testing stations. A testing station was set up on a desk chair and had a laptop, a pair of over the ear headphones, and copies of a demographic form, task checklist, and questionnaire. Each station was administered by a single proctor, whom would run the test and reset the station for each user, according to their script. The proctor would ensure the headphones where plugged into the laptop, that Google Chrome was open to <https://trackstudio.herokuapp.com>, that Google Chrome had microphone access disallowed, and that the application was in a logged out state before each test.

### Testing materials

#### Laptop

To note there was only one difference to the stations. It was laptop maker/model. One of the stations had a MacBook Pro laptop while the other had a Windows 10 laptop. Though this might seem inconsistent, it allowed to test the application on different platforms, to get a broader range of results.

#### Headphones

A station had a pair of over the ear headphones, we chose over the ear to sanitarily appeal to more users and in turn make them comfortable during the test.

#### Usability forms

##### Demographic survey

This survey wanted to gain user information to see how they met our demographic, some of the questions are objective like name, age and gender; while the rest are subjective. Subjective questions give us an impression of a user’s own judgment but cannot be taken fully as fact.

* Name (Open Response)
* Age (Open Response)
* Gender (Male, Female, Other)
* Do you consider yourself a musician? (yes or no)
* Have you ever recorded yourself? (yes or no)
* Do you download music creation software? (yes or no)
* Are you computer savvy? (yes or no)
* Do you play an instrument? (yes or no)
* Can you sing? (yes or no)

##### Task checklist

The usability task checklist was broken up into three sections. The first section checked to see if a user could set up hardware access to trackstudio, register for an account and find the tutorial. The following list contains the tasks in the first section.

* Ensure you’re at <https://trackstudio.herokuapp.com>.
* Allow microphone access to trackstudio.
* Register for an account at trackstudio.
* Click “Learn trackstudio”.

The second section, tested if a user could perform the tasks given by the tutorial. The following list contains the tasks in the second section labeled **(tutorial tasks)**.

* Grab those headphones.
* Record to a track.
* Playback my recording.
* Stop my recording.
* Add a reverb effect to my recording.
* Playback my track.

While the third section tested actions that were not implemented yet into the tutorial. The following list contains the tasks in the last section.

* Change the volume for the first recorded track.
* Record a second track.
* Change the volume of my second track.
* Change the treble and bass of my second track.
* Play your song from the beginning.
* Change the treble and bass of my second track.
* Play your song from the beginning.
* Record over a previously recorded track.
* Replace the first track with the “WahWah” effect.
* Play your song from the beginning.

##### Questionnaire

The questionnaire surveyed a user’s thoughts on the application based on their test experience. The following questions were found on the survey, they were open ended.

1. What is your overall impression of trackstudio?
2. What did you like the best?
3. What did you dislike the most?
4. Would you use trackstudio again?
5. What would you like to see improved?
6. What would you like to see removed?

## Acquiring a tester

Users would either approach or be walking by one of the stations. A proctor would then introduce themselves and ask the user to participate in a usability test. If a user agreed to participate the proctor would ask them to sit down at a station.

## Pre-test

Once a user had sat down a proctor would then hand them a usability demographic form and ask them to fill it out. Once complete the proctor would hand them the Usability task checklist and read the instructions and motivations to the test, to the user from their script. The user would then be handed the checklist and asked to perform the tasks in order on it.

## Usability test

The user would then perform the test as described in the checklist, the proctor would stand behind or to the side of the user while monitoring their actions. If the user looked confused the proctor would ask if they had any questions on how to proceed and take notes. If the user was stuck the proctor would show them where to go next and make a note.

## Post-test

Once the checklist was completed by the user. The proctor would thank them for their participation. And then ask them to fill out the questionnaire. The user would then be asked if they had any other comments that were not covered by the forms given to them, or if anything that they wrote down would be best described verbally. The proctor would then go over any concerns that were brought up and make notes.

The user would again be thanked for their participation, and then the testing station would be reset for the next user. Proctors at this time would be swapped to allow the initial proctor to review and collect the written materials with other proctors.

This allowed for proctors to be able to exchange knowledge on issues users were having and best allow them to look for other trouble areas that their users might not have experienced.

# Results

In the following section we have aggregated the results of our test by usability form.

## Demographic survey

During our test we had nine male participants that evaluated trackstudio’s beta version, their ages ranged between 20 and 30 with an average of 23. They considered themselves to be computer savvy with about half considering themselves to be musicians, but only a third having experience with music software recording, or playing musical instrument/ singing. Their self-assessment results can be seen in Figure 1.

Figure 1: Demographic survey results.

## Task checklist

All our users managed to complete the task list, but there were two instances in which users decided to go out of order when following the tutorial. This made the tutorial go out of sync with their actions. Asynchronous behavior caused the tutorial flow to break, due to expected button toggle states and the current tutorial state mismatching.

## Questionnaire responses

All users completed the questionnaire after the usability test, their results have been aggregated to show their results by question.

### What is your overall impression of trackstudio?

The first question in the survey asked for a general impression of trackstudio, the overall consensus was that it had a good user interface. Aggregated results to this question can be found in Table 1.

Table 1: Results for "What is your overall impression of trackstudio?"

| Table 1: Results for "What is your overall impression of trackstudio?" (Continued) | |
| --- | --- |
| Response | Amount | |
| Good user interface. | 77.78% | |
| Too much clutter. | 11.11% | |
| Over simplified effects. | 11.11% | |

### What did you like the best?

The second question in the survey asked for what users liked the most. We wanted to use these results to get an idea of what features to expand upon in future versions. Users primarily enjoyed trackstudio’s simplicity and the ability to add effects. Aggregated results to this question can be found in Table 2.

Table 2: Results for "What did you like the best?"

| Table 2: Results for "What did you like the best?" (Continued) | |
| --- | --- |
| Response | Amount | |
| Effects. | 45.00% | |
| Simple/Easy. | 45.00% | |
| Timer and Animations. | 10.00% | |

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### What did you dislike the most?

The third question covered a user’s dislikes. The results of this will help us determine which features to fix. Dislikes were spread out pretty evenly with most users having unique responses, a larger user base might help narrow down what users really dislike. In general the timer and complexity of adding effects though are the largest dislikes. Another dislike that stands out is the accessibility of the validation responses. Aggregated results to this question can be found in Table 3.

Table 3: Result for "What did you dislike the most?"

| Table 3: Result for "What did you dislike the most?" (Continued) | |
| --- | --- |
| Response | Amount |
| Timer keeps running after song is over. | 25.00% |
| Complexity of adding effects to track. | 25.00% |
| Effects are too simple, add parameters. | 12.50% |
| Not being able to add more tracks. | 12.50% |
| Validation colors are hard to read. | 12.50% |
| Nothing. | 12.50% |

### Would you use trackstudio again?

The fourth question covered whether the application would be a novelty or have a repeat user base. Users unanimously stated that they would use the application again. Aggregated results to this question can be found in Table 4.

Table 4: Results for "Would you use trackstudio again?"

| Table 4: Results for "Would you use trackstudio again?" (Continued) | |
| --- | --- |
| Response | Amount | |
| Yes. | 100.00% | |

### 

### What would you like to see removed?

The fifth question covered which items a user felt were unnecessary and should be scrapped. The majority of users stated that nothing should be removed. One item, though “Add to track button after selecting effect”, was also alluded to in the response of question **4.3.3 What did you dislike the most?** and is something that needs to be looked at. The aggregated results to this question can be found in Table 5.

Table 5: Results for "What would you like to see removed?"

| Table 5: Results for "What would you like to see removed?" (Continued) | |
| --- | --- |
| Response | Amount |
| Nothing. | 62.50% |
| Add to track button after selecting effect. | 12.50% |
| Effects partial filling up screen. | 12.50% |
| Timer. | 12.50% |

### What would you like to see improved?

The last question asked what a user would like for us to work on more. The majority of users wanted us to add more effects and change how they were chosen from, while tutorial responsiveness was another popular response. The aggregated results to this question can be found in Table 6.

Table 6: Results for "What would you like to see improved?"

| Table 6: Results for "What would you like to see improved?" (Continued) | |
| --- | --- |
| Response | Amount | |
| More Effects. | 30.00% | |
| Make tutorial restrict usability and more responsive. | 20.00% | |
| More responsive when choosing effects. | 20.00% | |
| Disable play button after one click. | 10.00% | |
| Colors in sign-up/login validation. | 10.00% | |
| Nothing. | 10.00% | |

# Proctor comments from user observations

While interacting with a user during the usability test, proctors made notes regarding the user’s actions or inability to act in certain circumstances. These are items that we will be focusing on fixing first in the application. Common issues that were noted were a confusion after registration as to where to go next, as a link was not immediately visible to the user, and clicking the dropdown toggle was not a clear solution. Users were also confused about what some controls did, and that tooltips would be helpful when hovering over a control. There were issues with playback, and again issues with the multi-step effects process. Aggregated results can be found in Table 7

Table 7: Proctor comments from user observations

| Table 7: Proctor comments from user observations (Continued) | |
| --- | --- |
| Comment | Amount | |
| After registering there was not a clear direction of where the user should go. | 17.00% | |
| More tooltips throughout site. | 11.00% | |
| Clicking play button multiple times, specifically immediately after playing would replay the buffer, even though the previous one was not completed. | 11.00% | |
| When click + (add FX) should not need to click "add to track 1" again. | 11.00% | |
| User would close out of tutorial, leaving tutorial partially uncompleted. | 05.00% | |
| The mixer as a whole is too large for the screen. | 05.00% | |
| The colors that appear in sign-up/sign-in validator are hard to read. | 05.00% | |
| Confused after allowing access to microphone (in allow access page). | 05.00% | |
| Stop timer when the song is completed. | 05.00% | |
| Instead of tracks call them layers. | 05.00% | |
| The “PingPong” effect sounds like a “Reverb” effect. | 05.00% | |
| Tutorial button is in an awkward place. | 05.00% | |

# Suggested changes

Based on the usability test results and the proctor observations we have made a list of items that are suggested as changes to the application, they are listed in Table 8.

The items marked **Y** in the **Slated** column will be implemented because they are feasible within the time remaining, their implementation is listed in the solution column. Those marked **M** will possibly be integrated if time permits, and those marked **N** will not be implemented.

Table 8: Suggested changes

| Table 8: Suggested changes (Continued) | | |
| --- | --- | --- |
| Suggestion | Solution | Slated |
| Colors in signup validator. | Change colors and size to a more visible option. | **Y** |
| Confused after allowing access to microphone (in allow access page). | Short tutorial that shows where allow access button is. | **Y** |
| End counter when track stop. | Auto stop track when done | **Y** |
| FX Catalog functionality change. | Add tooltips to all controls explaining what they are by name, on extended hover add description. | **Y** |
| Ping pong sounds like reverb. | Change "time" parameter to give more space in between repetitions. | **Y** |
| Prevent accidental out of order controls usage. | Disable unavailable controls. | **Y** |
| Quit out of tutorial | Change x icon to ‘Quit’ button | **Y** |
| Tutorial in header. | Move tutorial to header, close dropdown when clicked. | **Y** |
| User is confused after signup and how to close the screen | Close partial after successful login add down and up arrows to dropdown toggle. | **Y** |
| When click + (add FX) should not need to click "add to track 1" again. | Remove single track add buttons, and show information on hover and click adds track. | **Y** |
| Make tutorial responsive if a user makes a mistake. | Check if a click on another element was made than what was expected. OR  Place overlay over all other parts of screen to prevent accidental click outside of flow. | **M** |
| Get started/login (fork at splash screen). | No solution yet. | **M** |
| Change track name to layers |  | **N** |
| Mixer needs to be small and fit screen. |  | **N** |

We chose to not change the name of track to layer as it went against the brand of trackstudio. Tracks signify the four different recording tracks that the application uses to compose a master track with. Calling them layers would break from this.

Resizing of the mixer will not be implemented as it already has responsive columns to allow for use on mobile devices. Resizing of heights will destroy the layout at this time.

# Conclusion

The developers believe that trackstudio has a solid interface with a lot of functionality, with only minor improvements needed on the main mixer. Most of the suggestions given to us were valid and will be implemented to finish polishing the interface. Continuous usability testing will be needed to ensure that the new changes don’t bring unwanted effects to the user experience.

# Thoughts on Usability Testing

Usability testing really helps to polish a product, it is necessary. We believe that experience as proctors and usability test designers will help us get better feedback during future projects. It teaches us that users don’t always follow directions, that people look for different things and someone not familiar with a product can show you were its deficiencies are. On a learning note participating in a usability test during GUI I as the testers would have given a better start point in learning about how to run and develop our own tests, and we recommend that to anyone planning to conduct their own test in the future.

# Filled out usability documents

All the documents from the usability test have been scanned below.

