# Summative Report on Usability of OceanKTV

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## Summary

### Problem Statement and Test Objectives

This usability test of the Ocean KTV mobile app provides qualitative and quantitative data addressing QNAP’s interest in understanding users’ experience when using their products as used in their intended environments. We will assess the users’ experience with selecting, cataloguing, and singing songs, as well as their general satisfaction with the software. Other goals include gauging general user reaction to the application itself and any ancillary data that can be gathered from observing a large group of people using the product.

Based on a previous heuristic evaluation, I assessed the ease and difficulty of the following tasks using Ocean KTV:

1. In the top right corner of the playing screen, there is a small icon with three horizontal lines. Is this recognizable?
2. The other icons on the screen, particularly in the control bar area, arethey recognizable?
3. Searching for a specific male singer and then selecting the song to sing. Is there anything difficult or frustrating about this process?
4. Finding a song based on language, and selecting it to sing after one that was just selected. Is there anything difficult or frustrating about this process?
5. Renaming song lists, and adding songs to them.
6. Searching for a favourite song and add it to that a song list.
7. Find a song that was sung on a set-time and select the song to sing.
8. Adjust the background music and echo effects sound level.
9. Read or sing a song’s lyrics from the iPad screen. What is their experience using the device to read lyrics and sing at the same time. Can they find the function?
10. While a song is playing add a sound effect.

This usability study was designed to allow us to obtain mostly qualitative data. The focus of the study was task-oriented and directed toward how the participants subjectively responded to the tasks listed above. Participants were given a post-test questionnaire to obtain detailed and specific feedback, and allow for open ended discussion of the software experience.

### Process

Following industry standard methods of usability testing, I undertook an evaluation of the application, developed user profiles, and developed a eleven-scenario test plan.  The test was conducted over a period of 4 hours by one researcher, an assistant and a host. Participants numbered 12, of which 6 were interviewed and 8 filled out a post-test questionnaire and SUS evaluation.

### Results Summary

1. Consistent and persistent performance problems which resulted in the inability to complete certain tasks with the application. At first there were systems of lag, whereby the reaction time between a UI action and the NAS response would over time become more and more pronounced. After significant period of time whenever the app made a call to the NAS for data, the data failed to appear. During lag, there would be no indication that the app. needed time to process the request, and as a result participants would continuously press the UI element.
2. There were often conflicts between the iPad app and the TV version, which was exasperated by lag issues. Without direct communication between users of the different controllers, there was often observed instances where participants would try to perform actions at the same time, which would result in a lack of immediate response from the iPad app UI.
3. The search interface in most instances was the cause of the most participant errors. In particular, the tabbed UI consistently was a source of error, while the inability of the search box to hold user entered data was a source of frustration. The lack of any feedback from the search interface resulted in participants questioning the systems trustworthiness and the inability for the search system to deliver results to all their queries undermines the usefulness of including this function. In light that search was often viewed as the participants first choice for finding data, resolving the problems with search might need to have a greater priority.
4. Some problems were found with the icons used within the control bar area. Subjectively, these icons are clear and well drawn, but after a couple hours of use, participants still could not describe individual icon functions and needed more time to become accustomed to their mapped to actions.
5. Navigating throughout the app produced some confusion amongst a number of participants. Participants preferred “big leaps” as compared to constantly pressing the back button, particularly when starting new tasks. Their concept of where the homepage was differs from ours, they believed the first page of the app was the homepage and constantly looked for means to return there.
6. Problems with adding songs to the song book and the information design of the history section are also of note.

## Methodology

### User Profile

To recruit prospective test participants who represent the one of the product’s user groups, I created personas to represent our primary user groups.

A general description of the user characteristics is as follows:

* must be able to speak and read Chinese as well as English
* first language must be Chinese
* should have experience with KTV systems as seen in various KTV locations through-out Taiwan.
* should enjoy singing
* should have no prior experience using our Ocean KTV system
* female and male
* must have experience using mobile devices and have computer literacy
* preferably be between the age of 22-36

### Number of Participants

Initial plans were to test and observe a total of six participants in a un-controlled setting. The number of participants ballooned to twelve of which six were tested and eight filled out 2 post test questionaires.

### Length of Session

The total length of the session lasted for over 4 hours. With 10 minutes devoted to a welcome and introduction session and 30 minutes devoted to the questionnaires.

### Payment

Participants were given food and drink for participating in the session.

### Testing Environment

We used an uncontrolled setting to conduct the session. The study was originally intended to be held in the sessions host home, but technical difficulties (a dead Ethernet port) forced us to relocate to a classroom in a school nearby. There I recreated a relaxed environment that simulated a home environment.

Participants used a QNAP NAS 453a with Ocean KTV preinstalled and all settings preconfigured. The Ocean KTV iOS app (Version: 1.0.1) on a 2nd generation iPad with iOS version 9.3. The NAS was connected via HDMI to a large screen projector and via an analog connection to a stereo system. Participants were expected to be primarily using the iPad while sitting.

Session recording was entirely by hand written notes. Due to privacy concerns participants had opted not to have the session recorded.

### Scenerios

1. You’ve arrived at your friend’s place (or in this case our office) and you would like to sing a few songs together after dinner. Grab your friends iPad and launch the Ocean KTV app. Spend a few minutes exploring the app. As you go, please say 3-5 words or phrases you would use to describe the app to a friend or family member.
2. As you are familiarizing yourself with the app., look to the top right corner of the playing screen, there is a small icon with three horizontal lines. Please briefly explain what that button indicates to you.

The other icons on the screen, what do they indicate to you?
3. Now that you have spent some time familiarizing yourself with the software it’s time to start finding a song to sing. Start from the home screen and search for a male or female singer named ( ) and select a song to sing. Share your thoughts out loud as you go. Was anything difficult or frustrating about this process?
4. Ok perhaps that song isn’t your favourite and you would like to find something else to sing. Leave the song playing, find a Japanese song and select it to sing after the one you just selected has finished. Share your thoughts out loud as you go.
5. It’s now time to start creating some playlists so that you can remember your favourite songs for later. But first we need to create the list itself. Go to the song lists, change the name to anything you like and add any 3 songs to it.
6. Now we need to fill out that list with more songs that you might want to sing. Search for more of your favourite songs and add it to that same song list. Find the following songs listed below and do the same.

Now some of those you might not like so much. That’s ok, why don’t you delete the songs you don’t like.
7. Your friends have been using this computer to sings songs for quite some time. They tell that there was a song that they sang last weekend that was really great but they can’t remember the name. Find a song that was sung on (set-time) and select the song to sing.
8. Great, now we can continue singing. But just one problem, I would love to hear more of your voice. Please adjust the background music sound level.
9. Sometimes it’s fun to play with different effects when you sing. Please adjust the echo to suit your taste. You can either add more echo or reduce the amount of echo.
10. Your friends large screen monitor makes everything on the screen look big and beautiful. One of the advantages of having a mobile device is there portability. Stand up and read or sing a song’s lyrics from the iPad screen while you are grooving to the music.

Share your experience using the device to read lyrics and sing.
11. Now it’s time to let someone else sing a song. I’m a terrible singer but our assistant [ .. ] would love to try. She/he is going to sing the next song coming up. While the song is playing add a [clap] sound effect to show how great her/his performance is.

## Major Findings

### Severity Ratings

An explanation of the ratings used in the findings that follow.

4 (Critical) - This usability problem will make some customers unwilling or unable to complete a common task. Fix urgently.

3 (Serious) - This usability problem will significantly slow down some customers when completing a common task and may cause customers to find a workaround. Fix as soon as possible.

2 (Medium) - This usability problem will make some customers feel frustrated or irritated but will not affect task completion. Fix during the next "business as usual" update.

1 (Low) - This is a quality problem, for example a cosmetic issue or a spelling error. Note: Although this is a minor issue in isolation, too many "lows" will negatively affect credibility and may damage your brand.

### Collated findings, rated by severity

Based on the feedback I received from our participants as well as the analysis of the data from testing, I identified 19 significant usability issues with the Ocean KTV App. The following table lists these issues and indicates their impact on the usability of the site, along with the number of participants who experienced each problem.

|  |  |  |
| --- | --- | --- |
| **Problem** | **# Affected** | **Severity** |
| **Lag and Unresponsive UI:** Speed and response issues when using the app.  | 5/6 | 3 |
| **Lag and Unresponsive UI:** Participants experienced an inability to carry out their tasks | 3/6 | 4 |
| **Navigation:** Participants had trouble navigating throughout the app | 4/6 | 3 |
| **Navigation:** Participants expressed that they would like to go back to home in order to search or start another process. | 3/6 | 2 |
| **Icons and UI:** Participants couldn’t find the mute button | 6/6 | 4 |
| **Icons and UI:** Didn’t understand the 道唱 icon | 4/6 | 3 |
| **Icons and UI:** Didn’t understand the home icon | 6/6 | 4 |
| **Icons and UI:** Difficulties with basic playback controls (stop/pause/play) | 3/6 | 2 |
| **Search:** Participants had difficulties with the search interface which prevented them from task completion. | 5/6 | 4 |
| **Search:** Participants mistakenly believed that search was contextual | 3/6 | 2 |
| **Search:** Search was the first method they used to find songs | 5/6 | 3 |
| **Search:** Participants had some difficulty finding the search function. | 3/6 | 3 |
| **Finding (browse):** Participants turned to the search function first which failed to produce any results | 5/6 | 3 |
| **Song lists:** Participants wished the adding songs to list behaviour was more akin to iTunes | 3/6 | 2 |
| **Song lists:** Participants wanted to add songs from the playlist view | 6/6 | 3 |
| **History:** Participants complained that the design of the history page made it very difficult to find the date they were looking for | 5/6 | 3 |
| **History:** Participants used natural language search when looking for time based items. | 3/6 | 2 |
| **Lyrics:** Participants when directed couldn’t find the function without significant time and effort. | 4/6 | 3 |
| **Lyrics:** Participants stated that they couldn’t imagine using the iPad (holding it) to sing songs | 4/6 | 1 |

### General observations

* Set-up after an initial hiccup with a dead ethernet port went surprisingly smooth. I expected a number of different problems. Despite the NAS not showing up on Qfinder, entering the IP of the (pre-configured) NAS worked without a hitch (displaying the IP on the screen proved more useful than I thought, as without it I wouldn’t have been able to set-up iPAD).
* People became acquainted with the TV app seemingly quite quickly. The iOS app kept having conflicts with their perceived affordances.
* Participants responded positively to the name OceanKTV.
* Many were quite excited about the possibility of using multiple devices at the same time to control the TV experience. The realities were something different as there were often conflicts between mobile and TV.
* Lack of coordination between what was going on with the iPad and the TV controller. It seemed to be more of a group select vs. individuals selecting alone what they wanted to sing. Other would tell the person who held the controller what they wanted to sing.
* No one seemed to be apart of the “culture that knows where to download this stuff illegally” - when asked how they could add stuff no one expressed knowing.
* Many expected that they could download directly from within the app any songs that they wanted to sing. During discussions no one expressed enthusiasm with regards to the current method of installing songs.
* Some mobile interaction conflicts -- they constantly want to swipe but often we require them to press. In every list of data (songs/artists etc.) they tried to swipe.
* Sound effects were extremely popular (clapping etc)
* The launch page (our homepage) never received any interest.
* When participants were having difficulties understanding parts of the UI or difficulty completing tasks, they never looked for a help system to find answers to their problems.

### User Impressions

Qualitative feedback is indicated by a sample of the general comments I received from users about their experiences and preferences.

### Participants Negative Impressions

* “UI is unresponsive and not allowing the participant to easily continue”.
* “Very buggy, but looks nice”.
* “Too simple, needs more things to click”.
* “Homepage very strange”.
* Connecting to webpage problematic (dead link).
* Indecision as to what to sing, and no guidance from system. Asking for suggestions; could system provide suggestions?

### Positive impressions

* “Easy to understand, very simple, pretty”.
* “Convenient, likes background, loves clap sound effect”.
* “Convenient, attractive, simple”.
* “Simple but too simple. Wondered why no ability to personalize. Where is ranking of songs?”

### User suggestions

* “When we use apps., if we press longer, we could delete/rename”.
* Click on logo to return home.
* Use a different but for “cut”, one that more closely resembles what we have used before.
* Personalized ranking of songs.
* “Color of the lyrics”.
* Song ranking (Top popular / New Release / 60s / 70s/80s/).
* “Click the song and there will be a play button”.
* Search categories on homepage

### Positive findings

1. **Adjusting effects level and background music sound level.**

After a period of adjustment, *6/6 users were able to successfully complete these tasks with little to no difficulties.* User complaints and suggestion with regards to recognizing other icons didn’t apply to these.
2. **Adding a [clap] sound effect.**

While a number of participants showed difficulty in finding and recognizing the location in which this effect was found, *all participants expressed delight in it’s function.*

*3/6 participants suggested that there be a greater selection of sound effects beyond the currently available 2*.

When testing this function, *the unresponsiveness of the UI became readily apparent, as with 3/6 users when pressing produced no response would continue to do so*. Later all the effects would play continuously. Other than singing itself, this might be the participants favourite function.

### Major Findings by task

 Please note I did not include detailed examples in the suggestions.

1. **Lag and Unresponsive UI.**

It’s hard to isolate when the problems started but at the start of the test the UI responded and operated nominally. After continuous usage for an hour the app started to exhibit significant lag and would not respond to user input.

*5/6 participants complained about speed and response issues when using the app.* The result being that some participants continuously pressed the action that they wanted and all actions would later continuously be carried out. This was especially disruptive when they would press a sound effect. Often it was observed that the UI was not responsive when the NAS was being controlled by the remote.

There were often conflicts between the iPad app and the TV version, which was exasperated by lag issues. If there was no direct communication between participants, there were often conflicts between users of the different controllers. It was not clear which controller took precedence but this conflict caused some issues in practice, including a cacophony of different sounds and visual effects.

*When testing the UI 3/6 users experienced an inability to carry out their tasks* and had to result in talking through the final steps. This had nothing to do with any difficulty with the interface but because the app ceased at this period of time to produce any data. At this point it was observed that when pressing on a menu item no data would appear, when wanting to see data with regards to a specific singer no data would appear. There was no work around found. Later at the end of the session, the TV app itself started to show similar symptoms.

**Suggestions:**
	1. That the problems were not apparent at the start of the session, but started later and increased in severity as time went would suggest a software bug. And while very serious, it is not a specific problem that be addressed by changes to the UI alone.
	2. If there are problems with speed there should be some message displayed to keep the user informed of the status of her action.
	3. Often the UI appeared inactive. If there is significant lag issues it’s advisable on press to give users feedback that their action has been received, this will avoid the problem of repeated presses and reduce user dissatisfaction during this scenario.

1. **Navigation.**

*4/6 participants had trouble navigating throughout the app.* They complained that they couldn’t find the homepage and the buttons on the left as categories never worked. They would press to go to that area but the UI would not take them there. I observed that they had a desire for “big leaps” in the navigation, and not the constant back back back action that they seemed constrained to doing.

*3/6 participants expressed that they would like to go back to home in order to search or start another process.* They iterated that in their experience everything started from the homepage and our left side navigation seemed not immediately usable to them. Many participants wondered where home was. A number of participants stated that since the design looks similar to a website wondered why the top left icon didn’t lead home -- most would habitually press there.

A number of participants felt that the homepage should be more search heavy -- search certain categories of songs (please note that there concept of home and ours is not the same. Ours is the loading page, theirs is the main UI of app).

**Suggestions:**
	1. You might reconsider the design of the homepage to be more information dense and to *include specific searchable categories*. While most users turned to search before deciding to browse, many users expressed a desire to see more data on the homepage that could help them make a decision as to what song to select next. This could include rankings (top popular / new releases / 60s / 70s / 80s /) or other recommendations.
	2. De-emphasis navigating step by step and support giant leaps in navigation. The first step to accomplish this is by adding a link to home in the places that the users expect to find them. This would also necessitate changing our current concept of home from the launch page to the interior main page and creating a user recognizable icon.
	3. Ensure that no matter how deep in the structure, users can click on left icons and return to that level in the hierarchy.
2. **Icons and UI.**

*5/6 users had little or no problems identifying the icons on the main page, especially in relation to task completion.* When asked, they expressed that while one wasn’t immediately recognizable for it’s intended function, they all were clear enough and learnable. The results weren’t as completely positive when discussing the icons in the control panel.

While the icons for sound effects icons illustrated no problems,
	1. *6/6 subjects couldn’t find the mute button*,
	2. *4/6 users didn’t understand the 道唱 icon*,
	3. *6/6 of users didn’t understand the home icon*,
	4. *and 3/6 users had some difficulties with basic playback controls (stop/pause/play)*.

Most users suggested a change to the “cut” icon to be similar to what they have seen elsewhere.

**Suggestions:**

1. Change the mute button to be something more obvious.
2. Investigate and change the “cut” icon to resemble what users see in other systems.
3. After drawing new UI icons, consider testing them to discern which icons work for the target user group.
4. **Search**.

*5/6 participants had difficulties with the search interface which prevented them from task completion.* This was in part due to the tab UI being largely unseen to the participants, and many openly questioned why they would need to make this choice at all. “Why can’t I just search”. When users did enter their search terms and the system returned no results, *there was some confusion as to what they did wrong.*

Negative search results produce no guidance or information for the user, making it appear as an error on their part or the system and further compounding the task completion problems users had. They complained that they had to reenter the search term all over again when they had to.

Interestingly, *3/6 participants mistakenly believed that search was contextual*, and that when pressing search they were searching that particular section.

*For 5/6 participants search was the first method they used to find songs*. Browsing through the hierarchy was not their first course of action.

*3/6 users had some difficulty finding the search function*. They expressed that they had been expecting to see multiple search categories on the homepage and would often try to navigate back there first.

**Suggestions:**
	1. Consider eliminating or changing the tab interface. The tabs appeared in our test to have little value to the participants. They often expressed the desire to simply a search term and not deal with a category or filter interface. If the tab UI is a short term technical necessity, consider changing the size of the tabs so that they are more visible.
	2. I suggest you add zero search result data. The simplest form this could take a simple message telling the user that their search request returned 0 results.
	3. I suggest you add guidance within the search box to allow users to understand where and what there are searching for.
	4. If the tab UI is a short term technical necessity, I suggest you ensure that the data that is entered in the search box is remembered when they switch tabs.
	5. The search function was consistently the first method participants used to find songs, it’s importance in the test was paramount. I suggest you feature the search function more prominently on the homepage and consider changing the search icon to a search box in the same location.
5. **Finding a specific language song (English).**

*6/6 participants in the test were able to eventually complete this task, but 5/6 turned to the search function first which failed to produce any results*.

Many of the participants had some difficulty finding the English language selection via browse.

Some of the participants expressed that they had wished that there was more data on the Homepage, including a listing of English language songs or a means to search within English language songs. Many users seem habitualized towards search, then using browse as a last result when search fails to find the data they are looking for.

**Suggestions:**
	1. Consider strengthening the search function to allow searching for specific language based data.
6. **Manage or create song lists.**

*5/6 participants had no trouble creating new song lists when they were within the favourites view itself*. Many expressed satisfaction with the big + button, and thought that it was easy to use. But adding songs to a playlist didn’t appear to fit their mental model.

*6/6 participants wanted to add songs from the playlist view, and while later they realized that they could add songs to their list from elsewhere, this remained their stated preference*.

Some confusion between the label we use to describe song lists. Playlist seems much more understandable, and they specifically mentioned Youtube, Apple, and Spotify as examples.

*3/6 users wished the adding songs to list behaviour was more akin to iTunes* (which it partially is).

**Suggestions:**
	1. Considering adding the ability to add song to a song list from within the list itself.
	2. The large plus button proved very popular, consider using this interface element similarly to how it is treated in many of Google’s UI. You could attach “add a song” to this button and place it inside lists
7. **Finding a song that was sung** **in the past**.

While task completion was near universal, all users eventually were able to complete the prescribed task, *5/6 users complained that the design of the history page made it very difficult to find the date they were looking for*. They complained about it’s lack of organization, which made scrolling all the more difficult.

When asked to look for a song from a particular period, many turned first to the search box before browsing the category.

*3/6 of the participants used natural language search when looking for time based items.*

Despite criticism of lack of organisation, many felt that the history area was very important. They wanted to know what they have sung before.

**Suggestions:**
	1. Change the information display to allow for more efficient scanning of dates. This could include adding labels for years, months and so on.
	2. Strengthen the search function allow searching for time based data.
8. **Read or sing a song’s lyrics from the iPad screen**.

*4/6 participants when directed couldn’t find the function without significant time hunting.* But it was found that many expressed that they wouldn’t have difficulty finding it in subsequent usage.

Once the function was found, *3/6 users similarly expressed their satisfaction with the function* and they were able to increase the screen size with ease.

A couple participants expressed interest in seeing color coding for male, female and or group on the subtitles. While the function itself once found, it was observed that all participants preferred to view the lyrics via the television screen.

Later when asked, *4/6 participants stated that they couldn’t imagine using the iPad (holding it) to sing songs.***Suggestions:**
	1. Participants didn’t understand the necessity of using files that have hard coded subtitles. They suggested adding different functions that would be based on the ability to separate the subtitles from the video file. I suggest you consider adding the ability to add files that have separate subtitle files that can then be manipulated based on the participants suggestions.

### Post Test Questionnaire Analysis

Eight out of twelve participants independently filled out both a SUS (the SUS results are included in another report) and Post Test Questionnaire. This questionnaire was presented to them after 6 of them had previously gone worked through the scenerio’s and/or had spent over an hour using the software interface. Discrepancies between the data presented in the scenario findings and below may in part represent that the participants had an opportunity to learn the interface. Below are questions we presented to them, in addition to tables that show the answer selected by them. The first row of the tables below are the answer selections presented to the users and the second row identifies which users chose that answer choice. Below the table are participant comments regarding that particular question (duplicate or similar comments were cut for brevity).

1. **The icons were easy to understand.**

First, I asked the participants to rate their ability to recognize the icons contained in the interface. The participants responses were evenly split with 50% believing the icons were easy to understand, and 50% believing they were difficult to understand. Afterwards, they were asked to explain their reasoning. Their comments are included below the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly disagree | Disagree\*\*\*\* | Neither agree nor disagree | Agree\*\*\*\* | Strongly Agree |

Comments:

* “Most of icons are easy to understand, however, some are not. Ie: “stars’, I thought this meant favorite songs, not special effects”.
* “The “cut song” button and the “control menu” button is a bit confusing”.
* “Not intuitive”.
* “The icons are easily understandable”.
* “The cut song icon is not recognizable unless you’ve used it before”.
1. **Searching for specific songs was not difficult.**Most users (60%) agreed that the searching for songs was difficult,the remaining 40% expressed ambivalence, and neither agreed nor disagreed with the question. The main user complaint was that the search interface itself did not return any results (a known issue) and not the repeated errors shown in the task test itself. One particular comment, “the search icon is not clear”, deserved a follow up to se if matched with the behaviour I observed. This particular participant was complaining about the icon itself but that the icon was difficult to find in it’s current position. Their comments are included below the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly disagree | Disagree\*\*\*\*\* | Neither agree nor disagree\*\*\* | Agree | Strongly Agree |

Comments:

* “search function did not work”.
* “not easy to find song”.
* “plz let us chose the way between singers name or songs name”.
* “The search icon is not clear”.
* “The song search was not difficult, except the song selection was a little sparse”.
1. **Adding songs to a playlist was a difficult process.**Next participants were askedabout the process of adding songs to “我哥本”. 63% of participants agreed or strongly agreed that this was not a difficult process. The remainder, 37% disagreed, and felt it was too difficult. Some of the comments included the desire to add songs while inside the playlist itself. A function that currently doesn’t exist. Their comments are included below the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly disagree\* | Disagree\*\*\*\* | Neither agree nor disagree | Agree\*\*\* | Strongly Agree |

Why or why not?

* “I wanted to add inside list”.
* "Easy to add the songs. Suggest: When we use apps., if we press longer, we could delete/rename”.
* “It may need a little bit time to figure at the first time but after adding the first song, it is easy”.
* “It’s pretty simple”.
* *User suggestion*: “Click the song and there will be a play button”.
1. **How easy or difficult was it to figure out the correct choices and procedures?**
Next was a question to elicit feedback on the user interface of Ocean KTV as a whole. 50% of participants stated that the user interface was neither easy or difficult, with the remaining split between Somewhat Difficult and Somewhat Easy and Very Easy. Though instructed to focus their comments on the iOS exoerience only, of note is that that a number of the included comments also pertain to the TV user interface. Participants by this time had had ample opportunity to spend time with both iPad and the TV interface controller. Their comments are included below the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Very Easy\* | Somewhat Easy\* | Neither easy nor difficult\*\*\*\* | Somewhat Difficult\*\* | Very Difficult |

Comments:

* “a little complicated, need more time to get familiar with it”.
* “It depends of the folder we arrange the songs”.
* “easier with the iPad than the remote control”.
* “a little confusing the first time around, but seems like it would be ok after getting used to it”.
* “the features are easy to understand but when the remote isn’t pointed to the controller, it gets slow to respond”.
1. **Adjusting the background music level and adding echo was not difficult.**After the broad question,I returned to a couple more specific tasks. Most participants agreed that adjusting basic music level controls presented no major difficulties. In particular 75% agreed that adjusting the background music and echo was not difficult, with a further 25% strongly agreed. Their comments and suggestions are included below the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly disagree | Disagree | Neither agree nor disagree | Agree\*\*\*\*\*\* | Strongly Agree\*\* |

Comments:

* “echo icon easy to understand”.
* “pretty intuitive”.
* “other than the music, when we’re not s familiar with the tunes, most of the songs would be better if all have the “轉唱“ function (singers voice in back)”.
1. **Compared to other experiences you have had singing this is superior.**Lastly I hoped that the participants would compare using Ocean KTV with other karaoke systems that they would have encountered in the past. Their responses indicate that they were largely undecided, with 75% stating that the neither agree nor disagree that the Ocean KTV was superior.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Strongly disagree | Disagree\* | Neither agree nor disagree\*\*\*\*\*\* | Agree\* | Strongly Agree |

1. **What was the best part of this experience?**At the end of the questionnaire I asked them to share any thoughts they might have with regards to what they considered to be the best part of the experience. Of note is that most comments are not related to the user interface.
* “Fun to sing songs”.
* “You don’t have to buy a big machine to if at home”.
* “Upload the latest songs, it’s free and MV!”
* “Many versions of songs”.
* “It’s simple and you can use this all around the place”
* “That it can be used at home”.
* “Use iPad for remote control”.
* “To use it in a familiar and comfy environment like home”.
1. **What was the most frustrating part of this experience?**Then I invited the participants to share what they thought was the most frustrating part of using Ocean KTV.Interesting their comments mirror some of the issues that were found in the task test.
* “Hard to find songs”.
* “Hard to find songs you want to sing”.
* “If the screen could set the subtitle as a option, sometimes it will be faster to do choices”.
* “Home button. To many icons repeat on the same page (“…” icon)”.
* “Home button is not there. It’s not easy to go back to the homepage with one press”.
* “Connection problems – black flashing parts”.
* “Homepage design isn’t convenient”.
* “Sometimes the screen goes off randomly, buttons don’t work. System not work”.
1. **Is there something missing from the experience (ie. Function you have used before at a KTV) ?**Lastly, I asked them to suggest any features that they thought were missing from the product, especially those that they may have used in other systems.Most of these we had discussed previously.
* “Quick change”.
* “切歌，快轉”.
* “Special symbols “~~” (sing longer) “…” (pause)”.
* “Color of the lyrics”.
* “Ranking (Top popular / New Release / 60s / 70s/80s/)
* “Big “cut” button”.
* “Ranking of the popular songs”.
* “Without “preselect” function to resume singing right after one song ends”.

## Conclusion

Pursuing a discount usability approach that makes use of carefully selected participants, combined with careful observation of a large group of participants behavior, we recorded the performance of and response to tasks, questions and general use of the software. Based on the data collected we believe that there are both areas requiring further examination and immediate change.