**USER AND TASK ANALYSIS**

Relevant primary persona

**Picture is with permission of the person in the picture.

**Dorothy Yan - Slow Learner**

Age: 59 Status: Married, 2 Children (22 and 21 years old)

*”On my phone, the text and boxes are too small, I prefer apps on a computer. I want good size and ease when scrolling on my phone.”*

Having taken a degree in accountancy during the 1980s, she knows how to use computers. but today, she tends not to be intuitive. At least she has an iPhone for nearly all occasions, especially to read emails, watch YouTube videos and fill in applications, read news articles in her native Chinese and Better-skilled English and apps to talk with other friends and her family. Besides her two children, she speaks the best English in her family.

At the moment, Dorothy wishes to have a bilingual language virtual meeting application with a British Relevant news feed to keep her up-to-date with all the Trends and news from the UK and China and see their relevance and targets, the news feed are therefore prompts to chat during meetings, and thus people in the meeting will be able to see what she is talking about. She prefers an app which her to screen the article in Chinese and easily translate to English (whatever she chooses), allowing her and people in the meeting to understand the article, whether the attendees are fluent in English or Chinese.

Occupation: Recently retired restaurant owner.

Hobbies: Gossips, Chinese Language, Chinese Shows (Dramas, News and Current Affairs), cooking and tutorials.

Favourite: three smartphones, 2 obsolete and an iPhone, and TV.

Beliefs: Having worked her life as a restaurant owner and an estate developer, she wishes to communicate with her family and friends about things in Hong Kong, Chinese and British media. She believes things that target China/Hong Kong are equally relevant to the United Kingdom (her current living location), usually both her children dismiss her claim as being of little relevance to Britain.

Dorothy believes the best way to resolve the dispute is to seek sources from both Hong Kong and British Media on the same matter, bilingually in English and Chinese. That way she can speak to her Chinese-speaking friends and her English-speaking children about the article. She would like a plain-designed meeting and article app that shows the article to the meeting, while also able to control the meeting..

From this persona: I determined these requirements:

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| **All The Time** | Initiates a meeting and screen the built in article. |
| **Most of the Time** | Change the article language |
| **Some of the Time** | Join other meetings |
| **Rarely** | Requests control of meetings |
|  | **Dorothy** |

I determined the two main use cases:



Two Primary Tasks/Use Cases of the System

I used the two personalities from ‘All the Time’, from this user.

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| Use Case ID: 1 | Use Case Name: Initiate a meeting | Importance: Must have |
| Purpose: User should be able to input the meeting number, their name and start it. | | |
| Actors: A near 60s semi-retired Chinese woman | | |
| Pre-Conditions: The English Language is set as human-reading language (English Flag) and there are articles saved in SinEng’s database | | |
| Trigger: User Starts the app from the smartphone. | | |
| Basic Flow:  The User:   1. Press Set Up Meeting.   That way it opens a text box with two labels to show what to input and two primary buttons whether to join the meeting, cancel the meeting or screen share an article (when the meeting is initiated, the article will be screened immediately).   1. Type in the meeting id of 13 digits.   For this test case, the user inputs 4401415521125.   1. Type in the name (in this case, Dorothy Yan) 2. Press Start Meeting 3. Should see a smaller box that is the user’s initials plus the Name or the image of the user (if any) in a larger square centre aligned in the centre. Should also see ‘Screen article’, ‘Currently in meeting’, and the meeting ID all at the bottom, and ‘End Meeting’ button at the top left. | | |
| Extension: The user wants to immediately screen an article when the user starts the meeting. | | |
| Alternative Flow:  After step 3 of the original flow (description)  The User:  4: Presses ‘Screenshare an article’  That way it will show a list of articles to screen that can be sliced down to specific categories by pressing on Category  5: Presses Category.  6: Presses UK.  7: Presses a desired article (in this case the article about lockdown).  8: Presses ‘Preview Article’  9: Inspect the preview screen, the name and meeting ID (to ensure that they are all correct, and the two inner flags, one highlighted for the language (should be English Flag for English)  10: Presses ‘Start Meeting with Screenshare’  11: Should see a smaller box that is the user’s initials plus the article. Should also see ‘Screen article’, ‘Currently in meeting’, and the meeting ID; all at the bottom, and ‘End Meeting’ button at the top left.  5 or 7: Decides not to screenshare and goes back to Set Up Meeting by pressing Set Up Meeting  10: Decides not to screenshare and presses ‘Cancel Screenshare’ | | |
| Related Use Case: Change the sharing article’s language | |  |
| Post Condition: The user should be able to see everything either in step 5 of ‘basic flow’ or step 11 of the ‘Alternative flow’ | | |
| Author: Joseph Liu | | Date: 21 March 2021 |

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| Approved: | | Date: |

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| Use Case ID: 2 | Use Case Name: Change the sharing article’s language | Importance: Must have |
| Purpose: To change the article language from English to Chinese | | |
| Actors: A near 60s semi-retired Chinese woman | | |
| Pre-Conditions: The User already chose an interface language and initiated a screen sharing meeting of an article | | |
| Trigger: The User screenshare an article in English | | |
| Basic Flow:  The User:   1. Presses on the Chinese Flag inside the article window. 2. Should see the whole article translated to Chinese and the Chinese flag inside highlighted. | | |
| Extension: The user can also change the article language from English to Chinese. | | |
| Alternative Flow: The precondition is the user already set the article to screenshare and the article’s language is Chinese  1: The User presses on the flag of the UK  2. Should see the whole article translated with the words and title in English. | | |
| Related Use Case: 1 | |  |
| Post Condition: The sharing article should be displayed in the respective language depending on which flag inside the meeting screen (article) is highlighted. | | |
| Author: Joseph Liu | | Date:21 March 2021 |

State Transition Networks

For Use Case 1 Basic Flow:





For Use Case 1 Alternative Flow:





For Use Case 2 basic flow:



For Use Case 2 alternative flow:



**Interface Prototype**

Screen Design and links

USE CASE 1 Basic Flow:

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| **Main Menu Screen:** | Design interface elements used:  Contrasting elements:  I use dark grey for the header bar.  Screen title is lighter grey and the background is white. There is more weight on the background, so I made the smaller colours (both light and dark grey) so they contrast from the background.  Navigation: You can press on the button below to navigate through the programme.  iOS system header guidelines: Although the fonts and icons are different to the actual header, the position and output are consistent throughout the interface, and complies with iOS Guidelines with article apps.  Changing Title name: Allows the user to identify which article or screen he/she is looking at, and hence complies with Nielsen’s 7th principle. It gives the screen name bilingually plus in this case, the chosen language name of category.  Consistent alignment and design: I ensure all the pages will at least have the following: Header with button, logo and the two language flags, plus the title bar beneath and the page content.  Centrally aligned logo: to make it easy to see and recognise the brand name and logo.  Bilingual instructions and options: All the buttons here are dark grey which gives a good distinction between the white background and the buttons. Also, they are in both English and Chinese, and in a short summary, which makes the options understandable by people who can read English or Chinese. | Justification: I justify the choice of elements used so that the header is a monochrome background so that it is contrasting to the background, hence the grey title and the blackened header.  Since this app will be mobile only, the only necessary UI Controls are labels, titles and buttons, which are written in commonplace phrases and words, and so follows Nielsen’s 2nd Usability Principle.  It also complies with the 4th Usability Principle by Nielson, which Chinese readers like Dorothy can fully understand what each text means, but also her English friends.. Also, the interface remains consistent throughout.  The use of the label complies with ISO’s learning suitability principle, you are taught how to use the system here; just ‘Choose an option’.  Feedback: The only surveyee, Dorothy, was completely satisfied with the layout and the features on the screen. Because the text is bilingual, it allows her to choose easily without any prone for errors. The instruction tells the user what to do, so the user immediately understands what to do, hence complying with Neilsen’s 7th Usability principle.  User Error: There is no prone to errors, as there are only button inputs, thus it follows the 5th Nielsen’s Usability principles. |

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| Set up Meeting Screen:  Screenshot assumes the interface language is English.  If the user launches this screen for the first time:    Otherwise, and after pressing the screen anywhere: | Design interface elements used:  iOS system header guidelines: See above screen.  Contrasting highlighted flags: I ensured the highlighted flag is on a light grey rectangle to represent the selected language, hence the focal point.  Contrasting Primary buttons: The dark buttons on a white background represents importance and increased awareness of the option.  Language choice: the language of the page is determined by the highlighted flag, so this page is in Chinese, but you can easily switch to English by pressing the British flag. Because the app should not be overpopulated with text for increased readability, the two flags translate all the words into Chinese/English whatever is selected.  Changing Title name: Still compiling Nielsen’s 6th Usability principle, see Changing Title Name above  Text Box:  It will allow the user to type in the Meeting ID and Name at the user’s choice. However, when the screen is open, the meeting ID will be randomly chosen for you from a set of 1 trillion possibilities minus the IDs currently in used for other meetings. The app randomly inputs the Meeting ID, so users do not need to type in their own, but they can. It also takes the user name of the person logged in via the download store, i.e. Dorothy Yan, but it is editable to any name the user desires.  Pop-up boxes:  When the user launches this for the first time: 3 pop up boxes appear, telling the users what they can do to the screen. This complies with Neilsen’s 10th principle for documentation. Touching the screen will make these pop-up disappear, now that the user acknowledges their use.  Aesthetic and Minimalist Design: The design is minimalistic with contrasting black-grey core buttons and the white optional button.  Proximity: The category buttons are evenly spaced out between each other, giving the choice in Chinese and English, but as a consequence, inconsistent font size.  Repetition: Same header, only changed title name to Main menu, apart from the white button and the two flags. | Justification:  This screen complies with Nielsen’s 8th Usability principles, since it allows freedom to input any ID number and Name. When the meeting is finished, the systems delete the ID from the Occupied ID database. Text boxes allow the user to make up to 1 trillion possible IDs and infinite name possibilities.  This screen is also suitable for completing the primary task (setting up a meeting), because the meeting will need a meeting ID (for security and format) and the user name (for identification). Therefore complying with ISO’s suitability dialogue principle.  Feedback: the layout is simple, just check the meeting ID and Name and edit them if needed then press either buttons. The simple layout was satisfying too, although the spacing between Meeting ID and the number text box could have been closer so that the user can see these two content link.  User Error: If the user decides to join a meeting or find articles instead, the user can just simply press ‘Cancel Meeting’, which is white to contrast the dark header, complying with Nielsen’s 3rd Principle. |

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| Meeting Screen:  Screenshot assumes the interface language is English. | Design interface elements used:  iOS system header guidelines: See above screen.  End Meeting button: It is considered important but should not be pressed until the host is confident to conclude the meeting. It can save embarrassment from staying in the call.  Proportionate meeting display size: Since it is central and the shape of the display screen is proportionate to the size of the phone display, which means it does not distort or change shape when it is in full screen.  Attendees list:  The list of attendees will be shown at the bottom of the smaller Mini Screen, i.e. DY, if there are more attendees than what the size can allocate, there will be a right/left triangle to see more attendees.  Repetition: Same header, and alignment of button and language.  Attendees/Speaker window: The user will be able to see the person talking, aligned in the middle, depending if the attendee is the host or highly important.  Meeting ID: Remind the attendee the meeting ID in case others want to join this specific meeting without having to search for it.  Screen Article button: It allows the host to screen an article from the app, in case the host decides to screen share an article.  Prompter: ‘Currently in meeting’ will remind the user that they are in a meeting and their actions will be seen by others.  Flag Translator Buttons: Pressing the flag respective to their country’s language will translate the whole screen, except the iOS info bar to that language, allowing people fluent in either English or Chinese to understand.  Highlighting talker: Whenever anyone talks, the speaker, whether the image or the name of the speaker will be highlighted so that everyone will know who is speaking, also the title page shows the name of the speaker at that moment. | Justification:  The following Nielsen’s usability principle have been complied here:  2nd, 4th, 6th, 8th.  2nd is due to the human language used and that you can change the language easily by pressing on the two flags to translate. All the words are in human readable order.  4th is the header, everything written is completely literal to the meaning and thus consistency.  6th is that the ID is shown so that you don't need to remember the ID or navigate for it so others can join the meeting.  8th is the design and interface is minimalist, no one wants a screen full of unnecessary and nonessential elements. This screen only contains the most vital elements described in this screen’s element list.  Also, the buttons as well as the language allows the user to modify the language and what articles to screen, giving the user ideal individualisation and controllability, according to ISO’s dialogue principles. The controllability occurred from putting in the least number of inputs and changing screens, they just need to spend a lot or little time on the set up screen.  Feedback: Dorothy found this very useful and convenient.  She can see who is in the meeting, the options available, who is talking and the option to screen an article. She also finds it intuitive to finish the meeting and change language, and remind herself of the meeting ID. The three contents are the right size.  User Error: If the host (the user) prematurely begins the meeting, the user can just press on ‘End Meeting’ to stop the call. Also, the user can screen an article, in case the host wants to show one but forgot until after the meeting has already begun. Also, if the interface language is undesirable, the user can just press on the desirable flag to display the appropriate language. |

USE CASE 1 Alternative Flow:

The First two displays of the basic flow apply here but also:

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| **Choose an article Screen (after pressing Screen Share an article)**  Screenshot assumes the interface language is English. | Design interface elements used:  iOS system header guidelines: See above screen  Changing Title name: Allows the user to identify which article or screen he/she is looking at, and hence complies with Nielsen’s 7th and 6th principle. It gives the screen name bilingually plus in this case, the chosen language name of category. As well as changing the category list when the user chooses one at the next screen (Choose category)  Consistent alignment and design: I ensure all the appropriate pages will at least have the following: Header with button, logo and the two language flags, plus the title bar beneath and the page content.  Language Choice: see screen above  Big picture on the left: As most people read left to right, having a distinct picture will attract them to the nature of the article.  Article Headline and Subheadline Button: Adjacent each picture is a button to the article in details. Due to room constraints, there is only room for the headline and subheadline, which will explain briefly what the article is and whether the user wants to read more detail. Since the button touches their respective picture, the user will recognise these two elements linked together.  Spacing between articles: it is consistent to distinguish that the articles are in fact separate and not as a list of pictures relating to one article.  Category Organiser: Having an organised list based on categories is useful for the app, since it can show thousands of articles that requires tedious scrolling. To ensure relevancy to a user’s preferences, I have the category button on the bottom left. On this screen there are articles for ‘All’.  Centrally aligned logo: to make it easy to see and recognise the brand name and logo.  ‘Set Up meeting button’ to tell the user whether to cancel screen share, which is useful in case the user changes their mind about it.  Recognition instead of recall: Nielsen’s 7th Usability principle. The title of the screen will show the category of the article list, hence the user does not need to remember. | Justification: I justify the choice of elements used so that the header is a monochrome background so that it is contrasting to the background, hence the grey title and the blackened header.  Since this app will be mobile only, the only necessary UI Controls are labels, titles and buttons, which are written in commonplace phrases and words, and so also follows Nielsen’s 2nd Usability Principle.  This app complies with LATCH, more specifically Category. The inclusion of Category orientation means that the user can easily narrow down the result content, so that it saves time searching through all the categories. At this screenshot, it is currently showing all the headlines, but in the following ‘choose an article’ screen, i.e. UK only, the app only lists articles relevant to Britain.  This screen is best for learning, controlling, suiting the alternative use case, and conforming with their expectation. Complying with ISO’s 1st, 3rd, 4th and 5th dialogue principles. The title tells the user to choose an article from the list here, the user can take their time to find one, efficiently and predictably.  Lastly, this page has a headline, the summary and the picture per article, which easily separate each article from others, hence it complies with the law of proximity and similarity in Gestalt principles.  It also complies with the 4th Usability Principle by Nielson, which English readers like Dorothy’s children can fully understand the article. And they are easily translatable by pressing on the flag. Also, the interface remains consistent throughout.  The user can either choose an article from a scrolling list now, or press ‘Category’ to condense the list into articles relevant to the chosen category.  This complies with ISO’s principles on self-descriptiveness and conformity with user expectation. It clearly shows that the user must press on a desired article in order to demonstrate what the article will look like when it is screen shared, or they can choose a category optionally to condense the scrolling list.  Feedback: Dorothy thought everything about this page is clear. There are articles to choose, two buttons to change the category or cancel the article. In addition to the language flags to read the article in a more understandable language to her (Chinese). She also liked the link between each picture and the headline button. The layout is ‘virtual stack’ so that it allows the user to scroll up or down the page to display more articles.  User Error: If the user decides to not choose an article to screen share at the moment, they can just press ‘Set Up Meeting’ to return to the page. They can also select the English Flag if they accidentally press the Chinese flag easily. This screen is therefore applying Nielsen’s 3rd Principle. |

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| Choose category Screen: Screenshot assumes the interface language is English. | Design interface elements used:  iOS system header guidelines: See above screen.  Contrasting highlighted flags: See above display  Language choice: the language of the page is determined by the highlighted flag, so this page is in Chinese, but you can easily switch to English by pressing the British flag. See Use Case 2 for demonstration.  Changing Title name: Still compiling Nielsen’s 6th Usability principle, it now reads ‘Choose your category’ in the same position and alignment as the main screen.  Category Organiser:  Pressing on that category button from the last screens opens up a new page and now choose a category from ‘UK’, ‘Hong Kong’, ‘International’, ‘Europe’ or ‘All’. Hence they are radio buttons.  User Control and Freedom: Follows Nielson’s 3rd Usability Principles. The Back button (top left button) allows the user to return to main screen without changing categories or choosing a new category (centrally aligned).  Aesthetic and Minimalist Design: Nielsen’s 9th Usability principles. The main content section only consists of 5 buttons, representing different categories. The 5 buttons are dark to distinguish from the white background.  Proximity: The category buttons are evenly spaced out between each other, giving the choice in Chinese and English, but as a consequence, inconsistent font size.  Repetition: Same header, only changed title name to (Choose your category).  Contrasting highlighting flags and language choice: see Home Screen | Justification:  When choosing categories, I used buttons so that the text size inside the buttons are big and intuitive, acting as radio buttons since when the user presses on a category, the app replaces the previous category with the new category and displays the articles. The categories are in both languages so the button text remains static, regardless of language preference. A sparse screen will mean the user immediately stares of what little there is, i.e. four radio buttons and nothing else, and thus comply with Nielson’s 8th usability principle.  This screen complies with ISO’s principle on use error robustness. The screen will always avoid error, because there are only radio buttons, which when one is pressed will refresh the ‘Choose Category’ screen to only show articles within that constraint. There is no ‘make your own category up’ here.  Feedback: the layout is simple, just press on the category on one of the buttons on the main section, i.e. UK, Hong Kong, Europe, International or All. Dorothy liked the simplicity of the layout.  User Error: the top left button (Back) allows the user to return to the main screen without changing categories restrictions. Hence comply with Nielsen’s 3rd principle. |

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| **Choose Article Screen (UK):**Screenshot assumes the interface language is English. | Design interface elements used:  All elements from ‘Choose Article Screen (All)’ apply here. But also.  Exclusive list:  All articles irrelevant to the UK are hidden from the list, giving the user a less tedious scrolling, and if the user makes a mistake and actually wants articles of another category, they just press ‘Category’ and choose another, so this complies with Neilsen’s 3rd Usability principle. | Justification: The same justification from ‘Choose Article Screen (UK)’ but also includes that the lower number of articles to choose from will make browsing a lot easier and thus for Fitts’ law, scroll a lot less number of articles and thus time than with all articles.  Feedback: The only surveyee, Dorothy, was completely satisfied with the layout and the features on the screen.  She loved the excluded result so that she can find her desired articles easier.  User Error:  The same User Error is the same as ‘Chosen Article Screen (All)’. |

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| Chosen Article Screen:  If English flag is highlighted:    If Chinese flag is highlighted: | Design interface elements used:  Centre aligned and enlarged title bar on the headline section:  The title of the article sits in the title section in the same position as the main screen name. Also, the title is the same as the chosen article from the selection menu, which proves that the article matches and links together.  Contrasting highlighting flags and language choice: see Choose Category Screen (All)  Big Picture: Following Fritt’s Law, would be able to see the relevant picture that is larger than the thumbnail from the list page.  Article text: The layout ensures no matter the language, they are readable and spaced out to give information about the article to the user. Also, they are centre-aligned, which on a phone, will be the first orientation the human naturally sees.  Primary Button: As people tend to read the right bottom most content last, I made the button dark to bring attention and importance of pressing that button.  Back button: The spacing between this and Article button is big enough for good distinction, but it is coloured white to lessen emphasise it, but still needed if the user wants a different article.  Header Button: If the user decides not to display any articles in the meeting, they can by pressing it.  Contrasting highlighting flags and language choice: If the English flag is highlighted, the whole article is in English, otherwise on the Chinese flag, the article in Chinese. Hence comply with Nielsen’s 6th Principle. | Justification: I used LATCH and Fitt’s Law to ensure the top most of the page is the first read by the user, followed by the representing picture then the article itself. They are all centrally-aligned so that users will immediately find the desired content.  Also, the article page is written in plain Chinese, so that the user can read it with ease, and this complies with Nielson's 2nd Usability principle.  On the screen, I made sure that the text on smartphones should be middle oriented, because most smartphone users complies with Fitts’ Law; users look at the biggest and centremost portion of the article, i.e. the big picture, then looks up for the headline or the information beneath it.  Compliant with ISO’s 1st Dialogue Principle, by showing the title, picture and the report of the article, this is completely applies to this alternative flow use case. It also complies with the 3rd principle; displaying the article in English, and by pressing the Chinese flag, will display the article in Chinese, which I will explain in Use Case 2’s Interface prototype.  Feedback: Dorothy found this article intuitive. She can see the page title applies to the report beneath it. The report contains a large image to give a big emphasis on the report, then a suitably sized text beneath to read in more detail. She can choose then to accept screening or not.  User Error: If the user chooses the wrong article, the user can just press ‘Back’ to choose another one. Or if the user changes the mind about sharing the article, most likely after reading it, they can press ‘Set Up Meeting’ to cancel the selection. The language of the article is also easy to change; just press either the Flag of China or Britain. This screen is therefore applying Nielsen’s 3rd Principle. |

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| Preview Screenshare Screen:  Screenshot assumes both the interface and article language is English.  If this is the first time Preview Screenshare is shown:    Otherwise, or after pressing the screen anywhere: | Design interface elements used:  iOS system header guidelines: See above screen.  Repetition: Same header, only changed title name to (Headlines (United Kingdom)).  Meeting ID and Name Text Boxes: Having both boxes will remind the host the meeting ID and the name in cast the user wants to inspect and change the ID and/or the name. Hence comply with Nielsen’s 6th and 3rd Usability Principles.  Preview Screenshare window: The shape of the window is the same only smaller to maintain the screen size consistency. Also it is centre aligned so will be glanced at immediately.  Attendees footer: In the preview, there is a footer, allowing who is screensharing the article who are in the meeting, i.e. The squares in the footer will show the initials of the attendees, and big or small depending if the user is a host.  Article Picture, title and description: They are all in the preview box to show the layout of the screenshare when it and the meeting initiates.  Pop-up box:  When the user launches this for the first time the pop up boxes appear, telling the users what they can do to the screen. In this case, it explains by pressing the flags inside the window next to the message, it only translates the articles inside the window, not the entire interface.  This complies with Neilsen’s 10th principle for documentation. Touching the screen will make these pop-up disappear, now that the user acknowledges their use.  Help box: Since this screen has two sets of flags, the explanation next to the preview window tells the host how to change the article language, especially for unintuitive hosts, even during the meeting. The consistency may be lost, but an explanation is needed to stop hosts wondering what the flags do.  Two sets of flags: The Bigger flags in the app’s header only changes the language of the host’s interface, it does not impact the article language. Pressing the smaller flags will independently change the article language to the chosen one, highlighting that flag. | Justification:  This screen complies with the following Nielsen’s Usability Principles:  1st, 2nd, 3rd, 6th, 7th and 10th.  1st: the preview allows the host to inspect the screenshare before the host starts the meeting and given choices to start or cancel the meeting.  2nd: The article is written in Human language, so the preview will allow the attendees to read the article like a newspaper without system-oriented terms.  3rd: The user can modify the meeting ID or the name if the host is not satisfied by either. It also gives the option to change or cancel the screenshare before it begins.  6th: The text from the ID and name is the same as those written in ‘Set Up Meeting’ so the user does not need to remember the meeting ID and Name before beginning the meeting.  7th: The primary buttons at the bottom will give the host whether professional or novice a clear choice to do what the host wants with the article: to change it or start screen sharing it.  10th: The help box is needed to clarify users what the smaller set of flags in the window represent.  This screen complies fully with ISO’s 7th Dialogue Principle, in that it tells the user how the article will look if it is being screen shared, from the layout to the attendee footer. Also, it applies ISO’s 3rd principle, the explanation will show that the article and interface is matching the highlighted flags: Both are English, because the English flags in both the preview window and the header are highlighted. I will explain in Use Case 2.  Feedback: Despite the preview window being small, Dorothy realises that the window is a preview of the screen before she starts the meeting, therefore allowing her to review the interface. She then can make amendments to her name or the meeting ID without having to press ‘Cancel Screenshare’ and losing the chosen article.  User Error: If the host is unhappy with the article’s expected showing on the host’s screen, they can ‘Change the Article’ or ‘Cancel Screenshare’ whatever the user desires. Furthermore, the host can modify the article and the interface language independently to each other by pressing the flags of both sizes; big for interface and small for article.This screen is therefore applying Nielsen’s 3rd Principle. |

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| Meeting Screen with Screenshare:  Screenshot assumes the interface and article language is English. | Design interface elements used:  iOS system header guidelines: See above screen.  Enlarged, bolding screen share window: compared to the window in the preview screen, it is now larger which gives a sense of importance and broadcasts to the meeting. The attendees should be able to see this window, not just the host. The black border around the window separates the background from it, implying that this window is vital, and this comply with Nielsen’s 1st Usability Principle.  Article in window: Shows the entire content of the article for the host and all attendees.  Repetition: Same header, only changed title name to (Headlines (United Kingdom)).  Currently in the meeting alert: at the bottom centre, a message shows the user is in the meeting, which will make the user think about whether to do something else as it could be unexpectedly captured by other users. This is a psychological message to ensure users do not do things unacceptable, especially when they are in a meeting.  Footer alignment: The height of each item in the footer, (beneath the screening window) is the same, so that it not only keeps the alignment clean but also space to put in vital information.  Meeting ID label: Shown to remind the user of the meeting ID in case other users want to join the meeting on SinEng.  Stop Screening Button: Primary button to stop screening the article when the host does not want to screen it anymore. Very useful, if the host wants a clean interface foreground with just the attendee’s name or image or changing to a new article.  Two sets of flags: See above screen.  Attendees footer: See above Screen.  Article Picture, title and description: See above screen.  End Meeting Button: Placed on the left hand side of the header, of the same shape and position and colour for consistency and importance. When the host finishes the meeting, the host can simply press this button to end the meeting, freeing up the meeting ID from the occupied ID database.  Header: For Consistent layout, with the larger flags, the logo and a vital button (End Meeting), therefore the dark grey header bar does not at all throughout the app. | Justification:  The screen complies with the Neilsen’s 2nd Usability principle,  By displaying only articles based on the selected category, it allows the application to achieve high fidelity. At the moment, it is only showing just the articles based on that selected category, but you can change the category by pressing the ‘category’ button at the header.  Also to comply Nielsen’s 8th usability principle, there is no explanation box, because if it did, the screen would look messy and unprofessional for the host and the attendees. This principle ensures only the core options are shown.  The following ISO’s Dialogue Principle complies to this screen:  1st, 3rd and 7th.  1st is due to the fact that this screen is the final of the alternative flow, and now the hosting and the article is now being screened for the host and others can join.  3rd is achieved since the texts and buttons are fully understandable by humans, and the language can be changed by pressing on a flag.  7th is compliant since it is making sure that article and the chosen language inside the window can be seen by everyone, it also gains trust among attendees to the host for screening an article to backup whatever the host is talking about.  Feedback: Dorothy enjoyed the layout, and the elements; they allow her to check who is in the meeting, and thus can see the article. She can also change the article language in case there are Chinese attendees and would like to read the article in Chinese instead of English. Also, she can revert the article back to English if desired. The title, article picture and section are all appropriately sized for her. She understood because she already moved on from the Preview Screen Share screen, she will remember the brief explanation of what the two flag sets do.  User Error: Now that the screen shows a smaller number of, but more specific articles, the user error is less likely than ‘All’, since the user has more relevant articles to choose, saving time in case the user presses on an irrelevant article (of other categories). |

USE CASE 2:

This flow is the basic flow; the alternative flow is reverse.

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| Meeting with Screenshare English-language article screen  If interface language is English:    If interface language is Chinese: | Design interface elements used:  See all the elements in Use Case 1’s Chosen Article Page.  Translated interface: When the app header’s Chinese flag is pressed, everything, except the screening article, is in Chinese. | Justification: See above screen. Also, with the inclusion of Chinese interface, more people fluent in Chinese will understand.  Feedback: See above screen.  User Error: See above screen. |

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| Meeting with Screenshare article screen in Chinese  If interface language is English    If interface language is Chinese: | Design interface elements used:  All element from the above screen applies here but also adding:  Changed article language: The whole page is now in English instead of Chinese so that more people in the meeting can understand the context of the article.  Translated interface: See screen above. | Justification: It is the same as the above screen, except it is in addition to this statement:  I put in the same page but translated in a different language to show that the use case passes its intended test. Since It translates the whole page from Chinese into English, as well as highlighting the English flag, it will allow users fluent in English to read the article unaided. The same justification as use case 1’s Chosen Article page applies here, especially since the article is written in familiar words. Thus, complies with Nielsen’s 2nd principle.  Also, with just the inner Flags, the host and the attendees can in fact learn a new language so they can understand different language, boosting their intelligence and understanding through discovery. Hence the fundamental here applies ISO’s 4th Usability principle in addition to the principles above.  Feedback: see above interface, but also Dorothy was fully satisfied with this function, in that now she can show the article to her English friends so they can understand and agree with her view.  User Error: See Chosen Article Page |