Teach 02: Components of Usability

# Key Definitions

|  |  |
| --- | --- |
| Efficiency | The amount of effort or time required to perform a task. |
| Learnability | The path to becoming proficient. |
| Familiarity | The degree in which the interface resembles something with which the user has previous experience. |
| Simplicity | The amount the user needs to know to master the system. |
| Mapping | Clues within the design encouraging the user to form a consistent mental model of the system. |
| Motivation | How does the system make the user feel? |
| Trust | The amount of confidence the user has when using the system. |
| Visibility | The degree in which the functionality and the data of the system is available to the user when he needs it. |

# Problem 1: Refrigerator

|  |  |  |
| --- | --- | --- |
| Efficiency | Little effort is required to perform the task, but it can take a long time to learn due to the 24 hour timeframe before you see results |  |
| Learnability | Learnability has a steep upfront slope, but there is little to learn |  |
| Familiarity | There is no familiarity to any other temperature setting |  |
| Simplicity | The interface uses two separate controls, one with a letter and one with a numbering system. This is the primary problem. The interface is not simple | PROBLEM |
| Mapping | The mapping is directly on the interface, so it’s there and decent. But hard to understand. |  |
| Motivation | I think the motivation here comes entirely from not wanting your food to go bad, or be overly frozen |  |
| Trust | There would be little to no trust when initially operating the system |  |
| Visibility | High visibility. Everything you need is technically there. |  |

# Problem 2: Range Top

|  |  |  |
| --- | --- | --- |
| Efficiency | The stovetop should have high efficiency in operating and learning, once the labels are located |  |
| Learnability | Learnability would be high, once the labels are found |  |
| Familiarity | This stove looks like every other stove, so I’d say familiarity would be high |  |
| Simplicity | The controls are very simple |  |
| Mapping | Mapping could for sure be better. The knobs could be positioned more towards the back, and one more towards the front on each side |  |
| Motivation | In this situation the user would feel very stressed |  |
| Trust | The user trusts the system to work once the controls are determined |  |
| Visibility | The labels on the controls are very small and placed under the knobs. While offsetting the knobs to map them to the burners would be a good start, the labeling is the real problem here as it’s really not visible to the user. | PROBLEM |

# Problem 3: Dvorak Keyboard

|  |  |  |
| --- | --- | --- |
| Efficiency | Dvorak keyboards are said to be more efficient then regular keyboards once they are learned |  |
| Learnability | The learnability may be fine if it’s the first keyboard you’ve ever used, and it’s the only one you use through your lifetime |  |
| Familiarity | For me the problem is here. Every person that has used a computer is used to the QWERTY layout. The Devorak layout, which may be faster, has 0 to low familiarity to any regular computer user | PROBLEM |
| Simplicity | It’s a keyboard, there is very little knowledge required. |  |
| Mapping | The keys never move and are clearly labeled, so the mapping is good |  |
| Motivation | The user would have very low motivation to use this keyboard being accustomed to a QWERTY keyboard |  |
| Trust | Low trust, due to the key positions |  |
| Visibility | Keyboards kind of have low visibility, since you must put your hands where the labels are. So you really can’t actively see them while you’re typing. |  |

# Problem 4: Cursor Keys

|  |  |  |
| --- | --- | --- |
| Efficiency | The key configuration requires more movement, so it should be less efficient | PROBLEM |
| Learnability | Learnability shouldn’t be a problem |  |
| Familiarity | This is very unfamiliar. Similar to the Dvorak keyboard |  |
| Simplicity | The system is pretty simple |  |
| Mapping | Mapping is decent |  |
| Motivation | The user really doesn’t have much motivation to switch since it’s less efficient |  |
| Trust | I’m sure the keys work as they are supposed to |  |
| Visibility | Keyboards kind of have low visibility, since you must put your hands where the labels are. So you really can’t actively see them while you’re typing. |  |

# Problem 5: Kitchen Timer

|  |  |  |
| --- | --- | --- |
| Efficiency | Pretty low efficiency since you must cycle through the numbers |  |
| Learnability | Pretty learnable, since you can generally pick it up and understand it |  |
| Familiarity | These timer configurations are pretty common, so I’d say it’s pretty familiar |  |
| Simplicity | Three buttons is pretty easy to use and understand |  |
| Mapping | The label for the bottom button is unclear. It definitely does two functions, but it’s not clear what they are. | PROBLEM |
| Motivation | When you need a kitchen timer, you need a kitchen timer. |  |
| Trust | They are accurate, and can easily be verified |  |
| Visibility | The interface is very visible and easy to understand |  |

# Problem 6: Car Seat Adjustment Controls

|  |  |  |
| --- | --- | --- |
| Efficiency |  |  |
| Learnability | The system is very easy to learn |  |
| Familiarity | The system is familiar, and is in every car that isn’t electric powered |  |
| Simplicity | The system is very simple. Not a lot of moving parts |  |
| Mapping | The mapping makes sense |  |
| Motivation | The user is very motivated to use it as it’s uncomfortable ti not use, and it is the only way |  |
| Trust | This is the only real issue here. The user doesn’t have a ton of trust in the device since it may or may not go to the correct position | PROBLEM |
| Visibility | The visibility could be improved, as they can sometimes be hard to find. But even that is pretty minor |  |