Cmput 302: Human-Computer Interaction

Assignment 1 Design of highly usable TV remote

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**User-centered Design Goals:**

In order to design a highly usable TV remote a considerable amount of time and effort will have to go into the design goals. Before the designing the product a set of design goals must be agreed upon by all who are involved in creating the remote. This will save allot of time and money if this were a real life project undergo. These design goals will help outline what needs to be achieved when it actually comes time to putting together the hardware/software needed to develop a highly usable and function TV remote. This I believe is the most important part in any successful project. l goal is to design a highly usable TV remote using requirements given to me from the user, which in this case is requirements given to us from our professor, and while keeping the topics of availability, manageability, performance, reliability, security.

User Requirements:

* Easy to use for technically less savvy i.e. a broad audience, old/young , languages
* Allow users to consult channel directories
* Allow users to consult show times
* User can watch TV shows in real time
* User can watch Movies in real time
* User can program the recording of movies
* User can program the recording of shows
* User can store recordings on local hard rive
* User can replay recorded files from local hard drive
* User can play media from other devices (CD, iPods etc)

Availability Design Goals:

* A remote that will be available to my consumer 24/7.
* proper testing to be done on hardware and software.
* 24/7 monitoring of the hardware/software with the use of a hardware/software monitoring which will require a internet connection
* The controller will support High speed Wi-Fi
* I also would like to implement a button which would directly link the user to a phone call with customer support if any issues could be consulted free of charge. I want the user to be able to connect to the remote via Wi-Fi or an audio jack for older technologies.
* users device is connected over the same Wi-Fi or through an audio jack software will allow movies/audio to be transferred from the remote directly to the TV screen.
* All controls on the remote will be easily accessible to the user. Hardware used in the remote will be easy to replace and not overly complicated.
* All hardware and software will be available to user upon receiving the remote control.
* All media user transfers through remote available for user access

Manageability Design Goals:

* Easy to deploy into any home / current home entertainment setup
* minimal configuring required
* Possible to do upgrades on software or fix issues through network
* Easy troubleshooting manual

Performance Design Goals:

* Controller is easy to handle physically ie. sleek design
* Easy push buttons that are labeled and clearly visible
* Directory button which allows a menu to be displayed with channels
* TV button made of quality material
* Movie Button made of quality material
* Record button that can be used on TV or movie mode , recordings will be saved to remote SSD hard drive, and backup SSD harddrive
* Media button that allows user to select from remotes saved media from hard drive
* Wifi data transfer speed is very fast 802.11ac up to 1Gbps from remote to tv display
* 3.0 USB connector on control
* Audio jack for older devices
* Reliable high performance media player for playing all sorts of media ie. blue-ray, audio files etc.

Reliability Design Goals:

* Durable materials
* Easy to replace materials for product
* Network connection to allow for updates through internet
* Customer support button for 24/7 troubleshooting help
* Software for detecting problems in hardware/software
* Reduce problems that occur so user enjoys remote all the time

Securability Design Goals:

* Only devices connected to home WIFI will have access to remote
* Software for detecting malicious files/media in order to preserve integrity of system/drives
* Backup hard drive incase main hard drive fails in remote ie. One installed onto TV.

References

Used this cite in order to determine what information I would need to cover in my design goals

https://msdn.microsoft.com/en-us/library/aa291862(v=vs.71).aspx

Ideas for practices in Availability

https://msdn.microsoft.com/en-us/library/aa291543(v=vs.71).aspx

Ideas for availability design goals specifically Dynamic information and clustering.

http://www.hindawi.com/journals/ase/2012/792024/

Ideas for design Manageability

https://msdn.microsoft.com/en-us/library/aa292142(v=vs.71).aspx

Reliability design ideas

https://msdn.microsoft.com/en-us/library/aa292168(v=vs.71).aspx

Hardware Monitoring website

http://www.paessler.com/hardware\_monitoring

Wifi information

http://compnetworking.about.com/cs/wireless/f/wirelessspeed.htm