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April 27, 2021

Sr Design II Oral Report: Safety and Ethics

1. **COVID-19/Campus Access**
   * 1. **Fall Semester**
   * From beginning of Fall semester, the team members primarily worked remotely using applications such as Zoom, Microsoft Teams, and Google Doc/Slides to complete the initial research and assignments.
   * When having to meet up, senior members wore masks and worked together while remaining 6-ft apart from one another.
   * When having to exchange equipment or components, team members made sure to minimize contact and left equipment on team members doorsteps or mailboxes.
   * Senior members, Tyler and Gus were able to leave the state of MA to house sit in VA for two weeks where the team promptly received COVID-19 tests before leaving MA and before returning to MA. Team members worked in the same house and avoided contact with residents.
     1. **Spring Semester**
   * Team members had to receive their granted campus-access lanyards from Andrew Davis.
   * Team members were required to schedule time with Andrew Davis when the team would be working out of the lab on UMass campus, also using Google Spreadsheet Prof Materdey shared with Sr Design class.
   * The team was required to schedule and pass weekly COVID-19 tests being conducted out of the Clark Gymnasium.
   * Our badge would then be cleared to a Green color, yellow or red would not allow us campus access.
   * Needed to show Andrew Davis our cleared badges before entering lab for our schedule time.
   * Inside the lab, the team would be required to wear their appropriate masks and desks were set up to space students out by more than 6’.
   * Before leaving the lab, team members were asked to sanitize their desks/workstations/equipment with provided wipes and cleaning materials.
   * Andrew eventually gave our team the access code to get into the lab incase the team got to campus before him and asked the team to communicate with him and email him our arrival and departure times.
   * Luckily, the team’s approach to the seriousness of COVID-19 and Campus Access regulations, none of the team members during the course of the project became sick and the project was never halted for any illness reasons.
2. **ISO/IEC 25012 – Quality of Data**
   * The Quality of a Data Product may be understood as the degree to which data satisfy the requirements defined by the product-owner organization. Specifically, those requirements are the ones that are reflected in the Data Quality model through its characteristics (Accuracy, Completeness, Consistency, Credibility, Currentness, Accessibility...).
   * Accuracy - degree to which data has attributes that correctly represent the true value of the intended attribute of a concept or event in a specific context of use.
   * Completeness - degree to which subject data associated with an entity has values for all expected attributes and related entity instances in a specific context of use.
   * Consistency - The degree to which data has attributes that are free from contradiction and are coherent with other data in a specific context of use. It can be either or both among data regarding one entity and across similar data for comparable entities.
   * Credibility - degree to which data has attributes that are regarded as true and believable by users in a specific context of use. Credibility includes the concept of authenticity (the truthfulness of origins, attributions, commitments)
   * Currentness - The degree to which data has attributes that are of the right age in a specific context of use.
   * Accessibility - degree to which data can be accessed in a specific context of use, particularly by people who need supporting technology or special configuration because of some disability.
3. **ISO/IEC 25064 – User Needs Report**
   * User needs reports include both the collection and documentation of information from various sources relevant to user needs, and the analysis and integration of this information into consolidated user needs.
   * User needs reports are applicable to software and hardware systems, products, or services.
4. **IEC 60478 – Stabilized Power Supplies, DC Output**
   * This standard applies to stabilized power supplies designed to supply DC power from an AC or DC source for applications.
   * Team members carefully verified the Power Ratings when seeking a power supply for our system.
   * Wanted to purchase an available power supply with budget money to also satisfy design requirements of making the system portable and cheap.
   * Team ended up purchasing a DC Power Brick battery that has a 5V/2A USB port and 12V/3A DC output, which allows are system to be interconnected by USB cables.
   * Carefully selected this battery because it satisfied the power requirements of the subsystems (5V/2.5A for Rpi and 3.3V for Arduino Due)
   * With the battery satisfying the power ratings, the user and hardware would not be at risk of harm when operating the system, which was a major concern with the design process.