field of study Specific Guidelines

Software

project Guidelines

1. Hardware
   * Logical selection of Mac/PC/Raspberry Pi/Arduino/mobile phone/etc. for client application
   * Separate system for hosting the database (preferred)
   * Custom circuits (if a part of the project)
   * Use of University network
2. Software
   * Programming languages beyond ones covered in current classes require advisor’s approval
   * Include a list of non-standard libraries to be used and specific parts used (e.g. ZXing for mobile, Alien RFID SDK for desktop apps, OpenCV – open source machine vision library) and discussion of why the specific libraries and associated libraries were selected
   * Any source code obtained online is limited to libraries only (.jar, .dll, etc.)
   * Include database integration (can be an on-device db for mobile devices) with enforced relationships as appropriate
   * Make use of an external SDK/API (e.g. ZXing bar code decoder library for mobile, Alien RFID reader SDK for desktop)
   * Include some sort of integration with “external” devices (e.g. gyroscope/accelerometer for mobile devices, bar code/RFID reader for desktop)
   * Be modular in design

Project proposal guidelines

1. Project Proposal Documentation
   * Explain the goal you are trying to achieve
   * Process flowchart (high level, conceptual), block diagram(s) of overall system
   * Reason for selection of programming language
   * Include discussion of logic behind selected database engine
   * If custom circuits are to be used, complete and correct schematics are required
   * Project plan / timeline (realistic estimates)

* Prototype development and testing plan
  + Plan for showing that the desired output is created and meets the goals stated in the project proposal
  + Utilization of larger data sets

final report guidelines

* Include testing plan
* Include properly documented database scheme
* Allow for user configuration and persistence
* Include block diagram of finished solution
* Include complete software requirements specification as a separate appendix, including documentation for all student developed functions/modules
* Include a user manual
* Results from system tests (including forced error handling, corrupt data, etc.)