## Computer Science Independent Study - Completing the Topic Proposal Form

The topic proposal form is the first step toward selecting a project for the nine weeks. It is designed to help you narrow down your area of interest and guide you in selecting a project.

**Strand:** The first step is to select the strand you want to study. You should choose an area in which you have sufficient background to build upon. Do not choose an area in which you have absolutely no experience or you will not be able to complete your project within a nine-week period. Technology Application strands includes Web Design, Computer Science, Multimedia, Desktop Publishing, and Video Technology.

**Proposed topic to be addressed:** Be general at this stage. Your topic should reflect a general area of study (Web Design, Database Integration, Online Gaming, Online Apps). You should not list a software package or programming language in this section.

**Hardware/Software possibilities:** List anticipated hardware of software needs. You may not know exactly how you plan to approach the problem, but identifying the ways you may address it will help your instructor determine whether the resources are available in your classroom that you may need.

**Previous experience with topic:** List any applicable experience you have with this topic including hardware or software experience. This is important because you need to make sure you select a topic that is rigorous enough to challenge you while still manageable within a nine-week grading period.

**Possible applications/products to be created:** List any possible projects you can think of that could be created with about 4 weeks of class time. For your actual project proposal, you will be asked to justify the social significance of your product, so keep this in mind and brainstorm some project ideas that could be useful rather than just entertaining.

**Instructor Approval:** You must have the approval of your instructor before you may proceed. Your instructor may approve your topic as is or may ask you to make changes or start over completely. You may receive feedback about what resources are available for you to use.

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## Topic Proposal Form

Strand: Computer Science Web Digital Design and Media 3D Modeling and Animation

Digital Video and Audio Design Web Game Development Web App Development

**Proposed topic to be addressed:**

I would like to complete a web application I began creating earlier this year, which will track information on volunteer sessions done by the members of Science National Honor Society (SNHS) at Clements High School.

**Hardware/Software possibilities:**

For hardware requirements, I will need a server to host my web application (most likely MyASP.Net). For software requirements, I will need a database server (MySQL or MSSQL), a webserver (Apache or IIS), and developed RESTful web APIs to facilitate communication between web and database (Java or ASP.NET Core).

**Previous experience with topic:**

In my currently unfinished web app, I had focused on the front-end, or "client side," where I had used HTML 5, JavaScript (Vue.JS), and Bootstrap CSS to create the GUI and facilitate user interaction. Now, I am now hoping to be able to shift my attention to the back-end, or "server side,” to store all the information and connect the web to the database using Java. I am already quite familiar with the syntax and structure of Java.

**Possible problems to be addressed within this topic:**

As a previously volunteering member within SNHS and the former Vice President of Volunteering and Recruitment, I noticed a significant problem with the club’s volunteering system. Volunteers are typically unsure about how to best help the middle school students prepare for their upcoming Science Bowl and Science Olympiad competitions since they do not have any knowledge about how the previous volunteer had assisted the students at that location. As the current President of SNHS with all of the volunteering experience I have, I would like to make a positive change in the club through this web app.

**Possible products to be created to address problem:**

My completed web application will address these problems by allowing a member to use this tracker to review the information about the last session at their location, including suggestions for their volunteering time, and log information about their volunteering session for future volunteers.

**Instructor Use Only:**

\_\_\_\_\_\_ Approved

\_\_\_\_\_\_\_ Approved with changes described below

\_\_\_\_\_\_\_\_ Not Approved – resubmit

Changes needed: