第一周作业

作业名称：1. 慕课学习

2. Text I 阅读笔记

描述：1. 慕课学习：“英文科技论文写作（5.1）” <https://www.icourse163.org/course/BIT-1207443803>

2. 根据慕课中的内容回答Task 1 中的问题，

3. 阅读Text I，完成Task 2-4的阅读笔记。

*Task 1: According to what you have learned about the writing of proposals, determine which of the following questions a typical research/project proposal is expected to answer, either implicitly or explicitly.*

|  |  |
| --- | --- |
| Questions | Answers  Yes/No? |
| 1. Is your chosen topic relevant to the sponsor's interested areas? | Yes |
| 1. Are you familiar with the topic area? | Yes |
| 1. Have you identified specific and worthwhile problems/research questions/ objectives? | Yes |
| 1. Do you have the necessary theoretical background to design your research/project? | Yes |
| 1. Is the research plan carefully designed? | Yes |
| 1. Do you have the necessary expertise to carry out your research plan? | Yes |
| 1. What is your specific technique to collect the necessary data? | Relative paper from arXiv.org, datasets from theirs homepage, and necessary devices, e.g. GPUs, by renting. |
| 1. Have you thoroughly considered the research procedures? | Yes |
| 1. Is the procedure described in detail? | Yes |
| 1. What results do you expect that your research will produce? | A faster and more accurate detector combining traditional vision method with deep learning |
| 1. What problems are you likely to encounter during the research? | Limitations of hardware device. |
| 1. In what form do you plan to demonstrate or deliver your results? | A research paper and a real-time monitor for display. |
| 1. Will the research produce results that would benefit the sponsor? | Yes |
| 1. How will your research contribute to the existing state of knowledge? | Promote the combination of traditional and deep-learning based |
| 1. Is your budgeting for the project careful and reasonable? | No |
| 1. How can you guarantee that the research project can be completed within the time and budgeting constraints? | Daily report for tutor |

*Task 2: Skim through Text I and determine 1) the framing components in this project proposal, 2) among these components, which are the most important ones (list them in order of priority) 3) what is the macro-structure or discourse pattern of the text, 4) which of the questions listed in Task 1 the proposal has answered.*

1) The framing components of Virginia Tech’s Solar House proposal:

Title, Summary, Statement of Problem, Objectives, Plan of Action, Management Plan, Conclusion, References, Appendix,

1. The three most important components of this proposal (list them in order of priority):

Management Plan, Plan of Action, Conclusion

3) The macro-structure or discourse pattern of the text:

* Description-evaluation?
* Problem-solution?
* General-specific?
* Cause-effect?
* Hypothesis-testing?
* Comparison/contrast?
* Argumentation?

Problem-solution

1. Questions in Task 1 answered:

1),3),4),5),6),7),8),9),10),11),12),13),14),15),16)

*Task 3: Abstract/Summary is of great importance because it leaves the first impression to the reviewer. Analyze the information structure of the "Summary" in Text I.*

Note: Common types of information contained in the abstract/summary of a proposal:

* Background
* Problem statement
* Purpose statement
* Methods/Plan of action
* Expected results
* Conclusion

|  |  |
| --- | --- |
| 1Every three years the Department of Energy sponsors an event called the Solar Decathlon. 2The competition challenges teams to design and construct a house that will support its energy needs with Solar Energy. 3Virginia Tech’s performance in 2002 revealed the need for a new monitoring and control system. 4The previous unit was limited in scope, difficult to use, and lacked presentation capability. 5This document proposes a new design for this unit that will provide a means for user interaction and diagnostics. 6Through the use of an interactive website, which contains real-time statistics of the house and an educational package, the team plans to expand public awareness of solar energy. | 1-2:  Background  3-4:  Problem statement  5-6:  Purpose statement |

*Task 4: Read through Text I again and complete the following notes. Highlight the words and expressions that help you identify the points.*

**Notes**

**Title:**A Proposal to Implement a Monitoring and Control System into Virginia Tech’s Solar House

**Writers:** Michael Christopher, et al.

**Reviewer:** Professor Michael Ellis

**1. Statement of Problem**

1) Background of the Solar Decathlon

2) Achievement of Virginia Tech Solar House in the 2002 Solar Decathlon.

3) Statement of Problem

**Five** categories where Virginia Tech got low scores for the 2002 Solar Decathlon were lowest scores (see Table 1):

**Category1**: Refrigeration

**Problem**: The lack of testing of the refrigerator before the competition. The team was still attempting to resolve fundamental problems with the refrigerator during the competition.

**Proposed solution**: A monitoring system with warning capability would potentially solve this issue by providing the team immediate notification of inoperable systems and appliances.

**Category 2**: The Energy Balance

**Problem**: The poor rating in Energy Balance stems from the team starting

the week with a full charge on the batteries.

**Proposed solution:** Starting with a half charge, it would have been possible to

end with a positive net gain. Aside from altering the team‘s strategy in the Energy

Balance category, close monitoring of energy transfer through the house would

ensure power production and usage are always in check.

**Category 3:** Comfort Zone

**Problem:** The team also had trouble calibrating their instruments to agree with the judge’s instruments.

**Proposed solution:** The team worked to redesign a state of the art high efficiency multi-mode unit,improving the hot water category .

**Category 4:** Home Business.

**Problem:** An inability to synchronize the computer clock with the judge’s clock, leading to late submissions of reports.

**Proposed solution:** The team made an effort to synchronize the computer clock with the judge’s clock.

**Category 5:** Graphics and Communication

**Problem:** Virginia Tech did not have a unique way of displaying the heat pump mode of operation and condition of

the house.

**Proposed solution:** A graphical display of energy transfer through

the house would be an excellent way to communicate the ideas of

sustainable living and efficiency.

**In sum**: The goals of this team is to provide a solution to the problems of the house as outlined above.

**2. Objectives**

1) Specific objectives

Our team identifies three major objectives that must be met in the development of this system:

 1. Provide an interface between the user and critical information about

the house.

 2. Monitor conditions, diagnose problems, and evaluate performance of

the house.

 3. Create an interactive website to expand public awareness and educate future generations.

These objectives define the general direction, or vision, of the project.

1. Specific expertise and techniques

There are several assumptions and constraints we have identified. Because of Virginia Tech’s relationship with National Instruments (NI), LabView software will be used exclusively to design the user interface and data acquisition (DAQ)

routines. LabView is an excellent program that will greatly assist in realizing

our vision and meeting our goals.

1. Specific stakeholders (benefits and impacts)

The sponsors who donate equipment and allow us to use it in their system. And the team will be representing the university in the nation’s.Earth can also benefit from

progress made by the Solar Decathlon. .

**3. Plan of Action**

1) Step 1: Communicate with the people we are working for.

Output of step 1: Customer needs that will guide the team in establishing target specifications.

2) Step 2: Establishing target specificationsinclude the accuracy of measurements, power consumed by the equipment, and the number of people influenced.

Output of step 2: Details of our objectives.

3) Step 3: A search of literature concerning intellectual properties.

Output of step 3: Avoiding infringement and receiving proper credit.

4) Step 4: Creating concepts of detailed form and function

Output of step 4: Customers will be able to relay their satisfaction or lack thereof and give feedback so that the concept can be refined.

5) Step 5: The extent to which the system is modular will be specified

by the number of functional elements associated with each major physical

element.

Output of step 5: the monitoring and control system will be “built” based on the finalized design concept. Code will be written, transducers positioned, and wires installed into the existing 2002 Solar house or a test location not yet determined.

**4. Management Plan**

1）Qualifications of each team member and their responsibilities.

Attached resumes provide background information on each of the team members (see Appendix). Each team member will cover a wide range; however, there are primary goals for each team member to accomplish.

2) Specific measures and strategies to guarantee success.  ****

Success of this large group will require collaborative meetings to discuss

direction and move forward with ideas. And thevested interest comes with the confidence that as a team we have the experience and know-how to design, construct, and evaluate such a system within the given timeframe of nine months.

**5. Conclusion**

1) Restate the purpose of the proposal

The purpose of this activity is to enhance students' understanding of the local ecosystem and participation in the local food system.

2) Summarize the deliverables:

It will provide an interface between the user and this critical information. Along with an in-house graphical display, the team will create an interactive website to expand public awareness and educate future generations on solar energy.

**6. References**

**7. Appendix**