

Project Deliverable B: Need Identification and Problem Statement  
GNG 1103 –Engineering Design  
Group ----Solar

**Introduction:**

Sandra Cocea is our client and she is working for the VAW Program at the Eastern Ottawa Resource Centre. The VAM Program is to protect women and children who are relocated and homeless by providing temporary shelters. Sandra Cocea would like students to design and provide some solutions. There are some certain requirements and standards. One shelter can accommodate at least one person for two months, it is better if it can contain one woman and a child. The shelter must be a greenhouse which means it not only uses green energy resource like solar power, but also the power can be kept for later use or shared. There must have a heater and some basic household appliances for the daily use like fridges, lights and televisions. In order to use these household appliances, the house must have outlets for chargers on walls. In the meanwhile, basic built-in and rooms should be available, especially special facilities for disabled people. The shelter must contain one bedroom, one kitchen and one washroom. Most importantly, the environmental quality and configuration must satisfy safety standards, for example, windows are bulletproofed. The structure of the shelter must be easy to assemble and disassemble, which is easy to transport and be able to use for a long time.

**Briefing:**

	Need	Identification
Energy supply	Green energy resource	Clean and sustainable energy like solar power
	Heating	Be adjustable and heat the house quickly
	Small household appliances	For the daily use of appliances like a small fridge, lights, and televisions There should be outlets for chargers on walls
	Outlets for chargers	
	Storable power	Can be kept for later use or shared
Configuration	Windows	Bullet-proofed
	Build-in	Kitchen, bathroom, bedroom.etc Safe furniture
	Easy to be assembled and disassembled	Reduce the cost of the structure

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	Able to be used for a long time	Easy to transport
	Bed	safe and elevated; a crib if necessary
Living conditions	Storable space	A storage room for sundries
	For disabled people	Be accommodated for disabled people to access buildings and use facilities
	Safety for children	Protective facilities; medication
	Enough living time	One person living for two months

**Problem statement:**

The goal is to design a modular green shelter that is easily transportable and can accommodate a few people and children temporarily under safe conditions.

**Conclusion:**

Basically, we need to provide a dismountable living place that one person can live for 2 months for our client. It should contain basic living conditions such as living safety and enough space. Moreover, we want to improve the living quality by concluding everyday essentials like fridges, lights and heating system. With all the information we know, we should be able to come up with appropriate solutions.









