The Pert’ Near Perfect Gardening System

Overview
The Pert’ Near Perfect Gardening system provides an excellent method for gardeners with limited yard space to enjoy home gardening. The system includes many benefits that one may not find with traditional home gardening methods. Our gardening system is designed from durable weather-proof plastic, lengthens the growing season, is easy to assemble for the elderly or disabled, provides protection from pests and other animals, and eliminates the use of harsh pesticides.

Objectives
The main objectives included:
1. The system should be made out of durable weather-proof plastic that can withstand continuous UV exposure and freeze/thaw cycles.
2. The system should incorporate interchangeable panels to protect the garden.
3. The system should be modular so that any size garden can be produced.
4. The system should be lightweight and easy to ship to customers.
5. The system should be cost efficient.

Approach
- Weekly phone conferences with our sponsor enabled the team to understand requirements and to plan and discuss several viable options.
- A thorough research of different materials and their characteristics were examined to determine whether the design criteria could be met.
- The components of the system was analysed through calculations and SolidWorks until the full product could be modelled and constructed.
- After final feedback and approval for the selected material and all parts, the prototype was successfully constructed.

Outcomes
The gardening system is made from high-density polyethylene (HDPE) which is strong, resistant to impact, cost efficient, and aesthetically pleasing. The components include side panels, vertical posts, screen frames made from aluminum, and pin connectors. The new gardening system produces a durable, modular, and cost efficient design.