Affordable Roofing Concept Generation for Flat Roofs in New Kensington, PA

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Overview
Many buildings in New Kensington are in terrible state, with water leakage and pooling destroying the flat roofs. Being in the state New Kensington is in, many investors have left in search of better prospects. There are some, however, who think the key to reviving the city of New Kensington lies in a solution to these roofing problems. This project was aimed at designing an affordable and effective design that will repair and revitalize these rooftops.

Objectives
The goal of this project was to come up with a cost effective and operational solution to the roofing issues in New Kensington. The design was not constrained by a budget but needed to be as inexpensive as possible, needed to be able to fix the leakage problem, and needed to be able to be implemented across many different roofs in the area.

Approach
- Problem clarification
- Site visit
- Individual concept generation
- Team concept discussion
- Concept selection
- Meeting with Arconic company innovator
- Concept revision
- CAD modeling
- Relevant concept calculations
- Concept cost analyses

Outcomes
- A modular system of garden boxes, pitched roofs, and solar panels was designed.
- This concept is affordable, as the material cost is only around $3 per box.
- Once the roofs are patched, the system can be implemented on problem areas and will prevent future leaks.
- This system can be applied across many different roofs.