

# JUNLEE MARC MANRIQUEZ PEPITO

## Final Output: App Development Proposal

**Project Title:** LiwanagPH (Light Philippines)

**Niche:** Community-Based Energy Management & Sustainability

**Target Platform:** Mobile (iOS/Android)

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### 1. Executive Summary

LiwanagPH is a decentralized energy management platform designed to address the Philippines' energy crisis—specifically the "low voltage and brownout" issues mentioned in the Visayas Grid. The app empowers Filipino households to transition from passive consumers to active "prosumers" (producers and consumers) by facilitating peer-to-peer energy sharing and providing AI-driven efficiency tools.

### 2. The Problem Statement

The Philippines faces a dual challenge: a heavy reliance on finite fossil fuels and a power grid that struggles with peak demand. While many households are adopting solar panels, the "hassles of getting credit for supplying surplus power back to the grid" often discourage participation. There is a lack of a unified digital interface that connects local renewable energy producers with their immediate community.

### 3. Key Features & Functionality

- **P2P Energy Marketplace:** Utilizing the concept of "plugging into the grid", this feature allows neighbors to trade surplus solar energy. If one house has a high-yield solar day, they can "sell" or "donate" that excess power to a neighbor experiencing a shortage, keeping the local community powered during grid instability.
- **Smart AI Energy Audit:** Implementing a digital version of the "Professional Energy Audit", the app uses the phone's camera to scan appliances and

monthly bills. It provides a real-time "Carbon Footprint" score and suggests specific schedule changes to reduce energy waste.

- **Nano-Grid Monitor:** Drawing from the potential of the "Nano World" in energy storage, this dashboard tracks the health and efficiency of future household nano-batteries or smart-tint windows, providing data on how these materials are improving the home's thermal insulation.
- **National Grid "Green Stream":** A live visualization of the Philippine energy mix. It notifies users when the grid is being heavily powered by major renewable projects like the **Burgos Wind Farm** or **SaCaSol solar plant**, encouraging them to run high-energy appliances (like laundry) during those "green windows."

#### 4. Social & Environmental Impact

By democratizing energy access, LiwanagPH supports the national goal of making renewable energy account for **50% of the total energy mix by 2030**. It transforms the "Climate Change" challenge into a community-led opportunity for resilience and economic savings.

