**Emergency Service App & Website for Three Trades and Skills**

**1. Project Overview**

We will develop a new website and a mobile app (or a Progressive Web App) for your company "Three Trades and Skills" that offers electrical, plumbing, and HVAC services. The system is designed to handle emergency calls, process payments securely, and provide technicians with interactive maps to reach the service location quickly.

**2. Project Objectives**

**Emergency Call Feature**  
Allow customers to trigger an emergency service call through the app. When pressed, the system will charge their saved credit card (using Square) and start dialing a pre-defined list of service contacts.

**Call Routing Logic**  
The system will attempt to contact multiple service numbers simultaneously (or in sequence) so that the first person to answer gets the call. If none of the primary numbers respond, it will then move on to backup numbers.

**Interactive Mapping**  
Provide an interactive 2D map with turn-by-turn navigation and highlighted routes to guide technicians. Although a 3D map would be a great feature, it is complex to build, so we will focus on a robust 2D solution. I’ll try to incorporate 3D features if possible, but the main deliverable will be 2D mapping.

**Data Storage & Management**  
Securely store maps, photos, and reports on the Internet Computer (ICP) to keep detailed records for inspections and emergency responses.

**User Registration & Membership**  
Develop a website for membership registration where customers can sign up (providing name, address, contact info, and payment details) and choose one of the six membership tiers. The mobile app will share and update this data so both platforms stay in sync.

**Administrative Dashboard:**  
Provide a control board on the website to let you oversee memberships, service calls, and data management.

**3. Technical Approach and Architecture**

**a. Website**

* **Purpose:** Handle user registration, membership management, and administrative control.
* **Technology:** Standard web development stack (Nextjs) integrated with ICP canisters for data storage.

**b. Mobile App (or Progressive Web App)**

* **Purpose:** Allow customers to trigger emergency calls, view interactive maps, and access service information.
* **Technology Options:**
  + **PWA (Progressive Web App):** Leverage your web development skills to create a mobile-friendly app that works across all devices.
  + **Alternatively, React Native:** If a more native experience is needed.
* **Communication:** Both the website and mobile app will connect to the same backend on ICP to ensure data consistency.

**c. Backend on Internet Computer (ICP) Using Motoko**

* **Smart Contracts (Canisters):**  
  Develop core functionalities (emergency call handling, data storage, payment verification) using Motoko, a programming language built for the ICP.
* **Payment Integration:**  
  Integrate with Square for processing credit card transactions securely on-chain.
* **Data Storage:**  
  Store essential data (maps, photos, service reports) securely using ICP’s cost-effective cycle-based system.

**d. Interactive Mapping**

* **2D Mapping:**  
  We will implement a detailed 2D map with turn-by-turn navigation and highlighted routes to guide technicians to the service location.
* **3D Mapping (Optional):**  
  While a 3D map can provide an immersive experience, it is more complex and may be added later as an enhancement if feasible within our scope.

**4. Data Storage & Communication**

* **Secure Storage:**  
  All data (maps, photos, reports) will be stored securely on ICP canisters. This ensures the data is decentralized and tamper-proof.
* **System Integration:**  
  The website and mobile app will communicate with the same backend. This means if a customer registers on the website, the mobile app will show the updated membership information, and vice versa.