**Regional Payment Integration Plan**

**Philippines**

* **Primary Methods**: GCash, PayMaya, Grab Pay
* **Integration Approach**:
  + Use GCash's API for direct integration (they provide REST APIs)
  + For smaller transactions (₱100-500), direct GCash wallet payments are preferred over credit cards
  + Implementation via GCash's Create Payment Intent API

**Indonesia**

* **Primary Methods**: GoPay, OVO, DANA, LinkAja
* **Integration Approach**:
  + GoPay has the largest market share (~30% of digital payments)
  + Use Xendit or Midtrans as payment aggregators to access multiple Indonesian e-wallets
  + These platforms provide single-API access to most Indonesian payment methods

**Malaysia**

* **Primary Methods**: Touch 'n Go eWallet, Boost, GrabPay
* **Integration Approach**:
  + Touch 'n Go has dominant market position
  + Use MOLPay/Razer Merchant Services as payment aggregator
  + Also supports FPX (Malaysia's bank transfer system)

**Technical Architecture**

Here's how to structure your payment system to handle both global (PayPal, Stripe, crypto) and regional payment methods:

Copy

/server

/services

/payments

/global

stripe.js # Stripe integration

paypal.js # PayPal integration

crypto.js # Ethereum/Polygon integration

/regional

gcash.js # Philippines

gopay.js # Indonesia

tng.js # Malaysia (Touch 'n Go)

paymentRouter.js # Routes to appropriate payment processor

The paymentRouter.js would detect user region and offer appropriate payment methods:

javascript

Copy

// Pseudo-code for payment routing

async function processPayment(amount, region, method, userDetails) {

// Convert to USDC equivalent for smart contract

const usdcAmount = await convertToUSDC(amount, region);

// Route to appropriate payment processor

switch(method) {

case 'gcash':

return await gcashProcessor.createPayment(amount, userDetails);

case 'gopay':

return await gopayProcessor.createPayment(amount, userDetails);

case 'tng':

return await touchNGoProcessor.createPayment(amount, userDetails);

case 'paypal':

return await paypalProcessor.createPayment(amount, userDetails);

case 'card':

return await stripeProcessor.createPayment(amount, userDetails);

case 'crypto':

return await cryptoProcessor.createPaymentIntent(usdcAmount, userDetails);

}

}

**Integration Approach**

1. **Use Payment Aggregators**:
   * Southeast Asia: Xendit handles GCash, GoPay, Touch 'n Go, etc.
   * Western markets: Stripe Connect with regional payment methods enabled
   * This approach simplifies integration to 1-2 providers instead of 5-10
2. **Implementation Steps**:
   * Integrate Xendit for Southeast Asian markets (supports PHP, IDR, MYR)
   * Keep Stripe for Western markets and cards everywhere
   * Maintain direct crypto integration via MetaMask SDK
   * Implement a payment method selector that shows relevant options based on region
3. **Code Example for GCash Integration via Xendit**:

javascript

Copy

// GCash integration via Xendit

const Xendit = require('xendit-node');

const x = new Xendit({ secretKey: 'your\_api\_key' });

const { EWallet } = x;

const eWalletClient = new EWallet({});

async function createGCashPayment(amount, externalID, phone) {

try {

const payment = await eWalletClient.createEWalletPayment({

externalID: externalID,

amount: amount,

phone: phone,

eWalletType: 'GCASH',

callbackURL: 'https://haulhub.app/payments/callback'

});

return {

success: true,

paymentId: payment.id,

checkoutUrl: payment.checkout\_url

};

} catch (error) {

console.error('GCash payment error:', error);

return {

success: false,

error: error.message

};

}

}

**User Experience Flow**

1. **Region-Aware Payment Options**:
   * A Filipino user sees: GCash, PayMaya, Cards, Crypto
   * An Indonesian user sees: GoPay, OVO, DANA, Cards, Crypto
   * A US user sees: PayPal, Apple Pay, Google Pay, Cards, Crypto
2. **Unified Backend Flow**:
   * All payments convert to USDC value (for escrow smart contract)
   * Funds are held in escrow until delivery confirmation
   * Hauler receives USDC (can cash out to their preferred method)

**Cashout Options for Haulers**

Equally important is how haulers get paid:

1. **Philippines**:
   * Direct to GCash (lowest fees, most popular)
   * Bank transfers via InstaPay/PESONet
   * Keep as USDC in wallet
2. **Indonesia**:
   * Direct to GoPay/OVO
   * Bank transfers
   * Keep as USDC in wallet
3. **Malaysia**:
   * Direct to Touch 'n Go
   * Bank transfers via DuitNow
   * Keep as USDC in wallet

This comprehensive payment approach gives you flexibility to expand to new regions while maintaining the crypto-based escrow system as your backbone. It allows users to pay and haulers to cash out using the methods most familiar to them in each region.