Petopia: A Smart Pet Adoption and Management Platform

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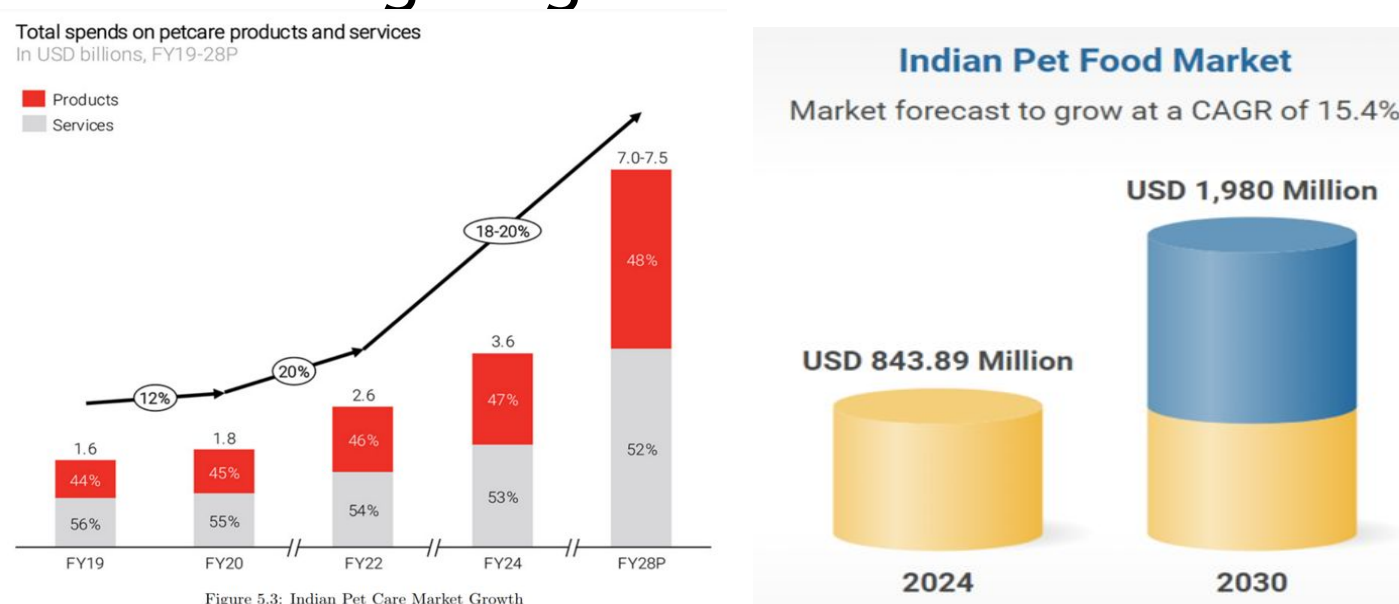Indraprastha Institute of Information Technology, Delhi

Petopia

Abstract

- With the growing population of stray and abandoned animals, there's an urgent need for digital adoption and pet care platforms.
- Petopia is a full-featured solution addressing the pain points of shelters, pet parents, and service providers.
- The platform offers pet adoption, pet essentials purchasing, and booking services under one unified digital ecosystem.

Background & Motivation

- India is home to over 62 million stray animals, with only a fraction finding proper care or adoption.
- Traditional adoption systems are slow, unorganized, and often exclude key stakeholders.
- The gap in pet healthcare and grooming access in Tier-2 and 3 cities is growing.
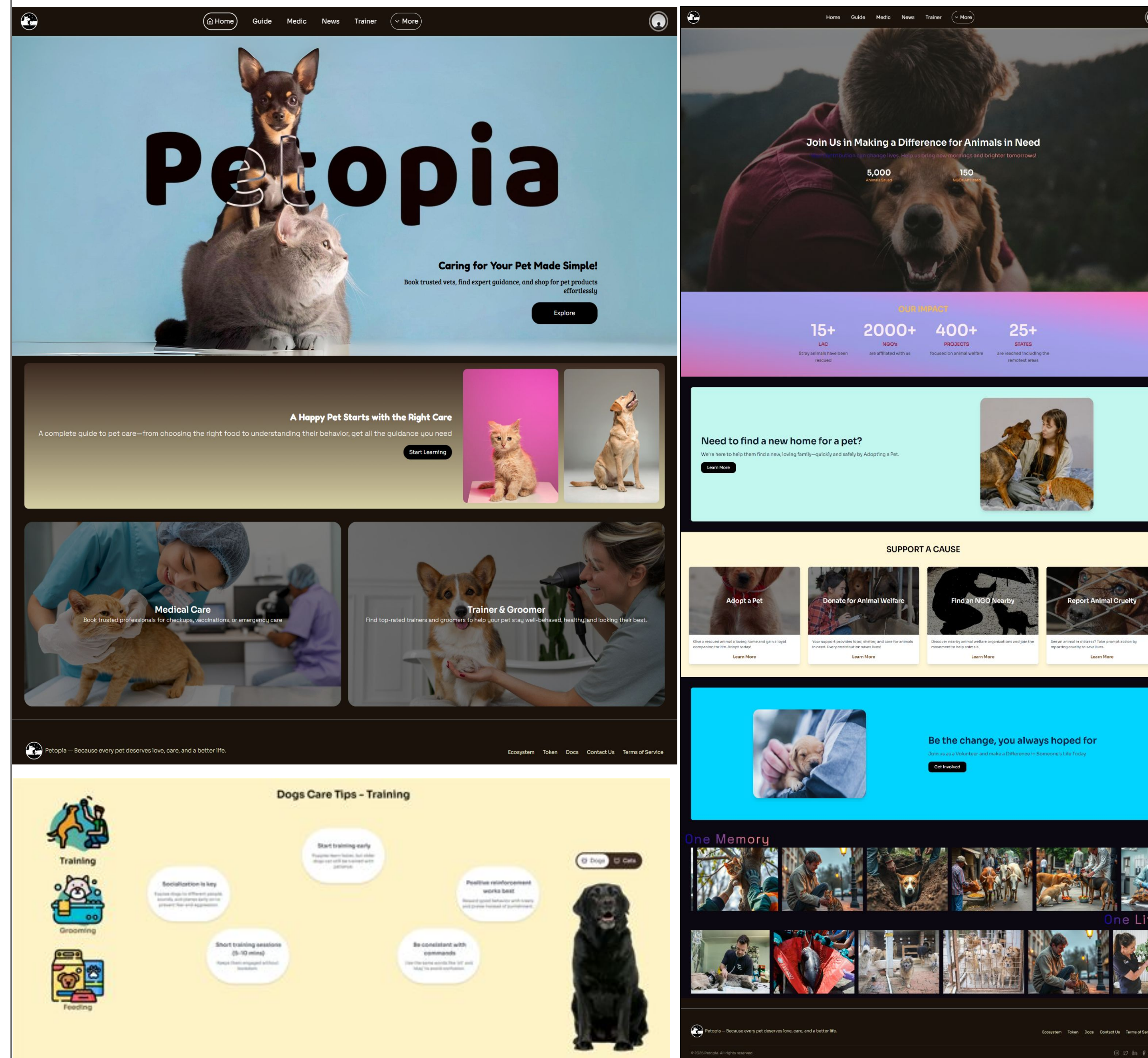- Petopia aims to bring structure, transparency and convenience to pet care through digital transformation.

Total spends on petcare products and services
In USD billions, FY19-28P

Indian Pet Food Market
Market forecast to grow at a CAGR of 15.4%

USD 1,980 Million

USD 843.89 Million

2024   2030

Figure 5.3: Indian Pet Care Market Growth

Challenges

- Fragmented shelter data and lack of centralized coordination
- Low digital literacy in shelter admins
- Managing real-time bookings and inventory updates
- Scaling backend architecture to support concurrent users and multi-role access

Methodology

- **Web Platform Development:** Built using MERN stack (MongoDB, Express.js, React.js, Node.js) for robustness and scalability.
- **Modular Architecture:** Implemented role-based access for adopters, shelter managers, donors, and service providers.
- **Pet Management System:** Shelters can add, update, or remove pets using an authenticated dashboard.
- **Booking System:** Users can book pet-related services (veterinary, grooming) with location-based filtering.
- **Security and Validation:** Used token-based authentication and form validations to ensure secure, trustworthy interaction.

Our Aim

- Digitize and streamline the pet adoption and donation workflow
- Create a transparent and accountable ecosystem for animal welfare
- Provide ease of access to pet care services through an all-in-one platform
- Empower shelters with automation tools to manage resources efficiently

Market Analysis

- India has 62M+ stray animals and a growing pet adoption trend. India's pet care market is growing at 20%+ CAGR, driven by urban adoption.
- Rising demand for ethical, tech-driven pet adoption platforms.
- Market is fragmented — lacks centralized adoption and welfare platforms.
- Target users: shelters, adopters, pet service seekers, and donors.
- Revenue model:
  - Subscription plans for shelters/service providers
  - Commission on adoptions and service bookings
  - Donations and featured listings

Future Work and references

- Add AI-driven pet recommendations for adopters
- Enable mobile application for wider accessibility
- Implement feedback and review systems
- Build analytics dashboards for shelters and service providers

[1] Petopia Website URL: https://petopia-inky.vercel.app/
[2] Redseer Strategy Consultants. India's Pet Care Market to See Steady Growth to $7 Billion Market: https://www.consultancy.in/news/4276/indias-pet-care-market-to-see-steady-growth-to-7-billion-market.
[3] Research and Markets. India Pet Food Market Report 2024: Value to Double to $1.98 Billion: https://finance.yahoo.com/news/india-pet-food-market-report-150500155.html.
[4] Business Standard. From chew toys to spa kits: https://www.business-standard.com/industry/news/online-pet-care-sales-double-fy25-small-cities-drive-demand-125041500826_1.html.