



PERSONA



Codeamans

Outline

- Problem
- Solution
- Application Flow
- Purpose-specific Technical Aspects
 - Scalability
 - Accessibility
 - Security
 - Performance
 - Functionality
- Implementation
- Third-Party Services
- Key Points

Problem

- Current technology offers a variety of modern devices.
- The extensive number of opportunities comes with hard management.
 - Security / Performance trade-off
 - No user-friendly management application
 - No high-level smart devices and low-level sensor integration
 - No social media connection or socially extendable device network on market

Solution

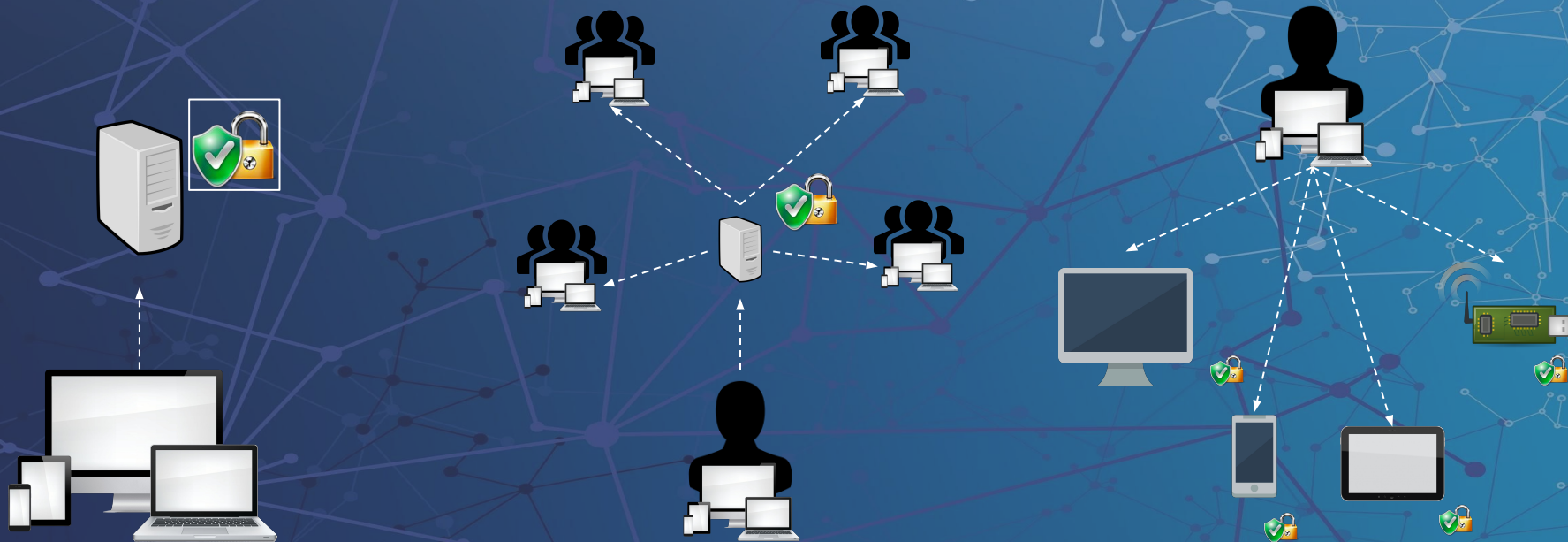
- A versatile, high-performance and secure device management
- Development platform providing a personal network API
- Maximal access to distributed devices
 - Windows, Linux, MacOS desktop and laptop computers
 - IoT\sensor devices
 - Android mobile devices

Solution

➤ Custom grouping system

- Network of personal networks
- Shared devices under specific permissions
- Home and business groups
- Facebook friends' network

Application Flow



Create your personal network on SSL protected application server via your application or Facebook account

Join or create groups to manage your and your relatives' devices in the most efficient way using user-specific permission system.

Control devices in your network via SSL protected peer-to-peer connections

Purpose-specific Technical Aspects

- Scalability
- Accessibility
- Security
- Performance
- Functionality

Scalability

- Apache Thrift
 - Cross-language Programming Interface
- Web Service Structure
 - JSON-based Peer-to-peer Communication
- Kivy Interface Framework
 - Easy UI Integration to Platforms



Accessibility

- Crossplatform Application
 - Windows
 - Linux
 - MacOS
 - Android
 - Edison
- Peer-to-peer Communication



Security

- Secure Socket Layer (SSL)
 - Server-Client Security
 - Peer-to-peer Security
- Secure Shell (SSH)
 - SSHFS
- Server Managed Permissions
 - Device Access Permissions



Functionality

- Distributed File Management
 - Complete Remote File System Mount
 - Single File Transfer
- Remote Video Stream
 - Third-party Services Managed by Private Server
- IoT Integration
 - Intel Edison Sensor Kit
 - Telosb Wireless Sensors



Functionality

- Bluetooth and Sensor Access
 - On Android and Desktop Devices
- Device Tracking
 - Online GPS Information



Performance

- NoSQL Database
 - Fast and Scalable
 - MongoDB
- Lightweight Graphical User Interface
 - Kivy Framework
- Multi-threaded Server and Client



Implementation

- Desktop Devices

- Python
- Kivy Language
- C#

- Mobile Devices

- Java

- Embedded Devices and Sensors

- C
- Python

- Server

- Python



Third-Party Services

- WebRTC
 - Peer-to-peer Video Conference
 - High Level Network Management
 - Easy Integration
- GeoIP
 - Online GPS Service



Key Points

- API-like Structure
 - Use as a Web Service
 - A Platform to Develop Platforms
- Facebook Integration
 - Merge Facebook and Application Networks
- Peer-to-peer Network with SSL Protection
- Communication between IoT and High Level Devices

