
A Java API for unifying ad-hoc Wifi networking

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Goals

- Overall completion of Android API
- Ad-Hoc support for Windows, Mac, and Linux
- DirectP2P support for Linux and Android
- Integrity check for proper installation

Motivation

- No complete, current alternatives exist
- Easier cross-platform communication
 - File transfer
 - Shared internet connection
 - Distributed network
 - Form intranet

Features

- Integrity check (Installation validation)
- Automatically detect the user's operating system
- Efficient use of Android hardware (Ease of use)

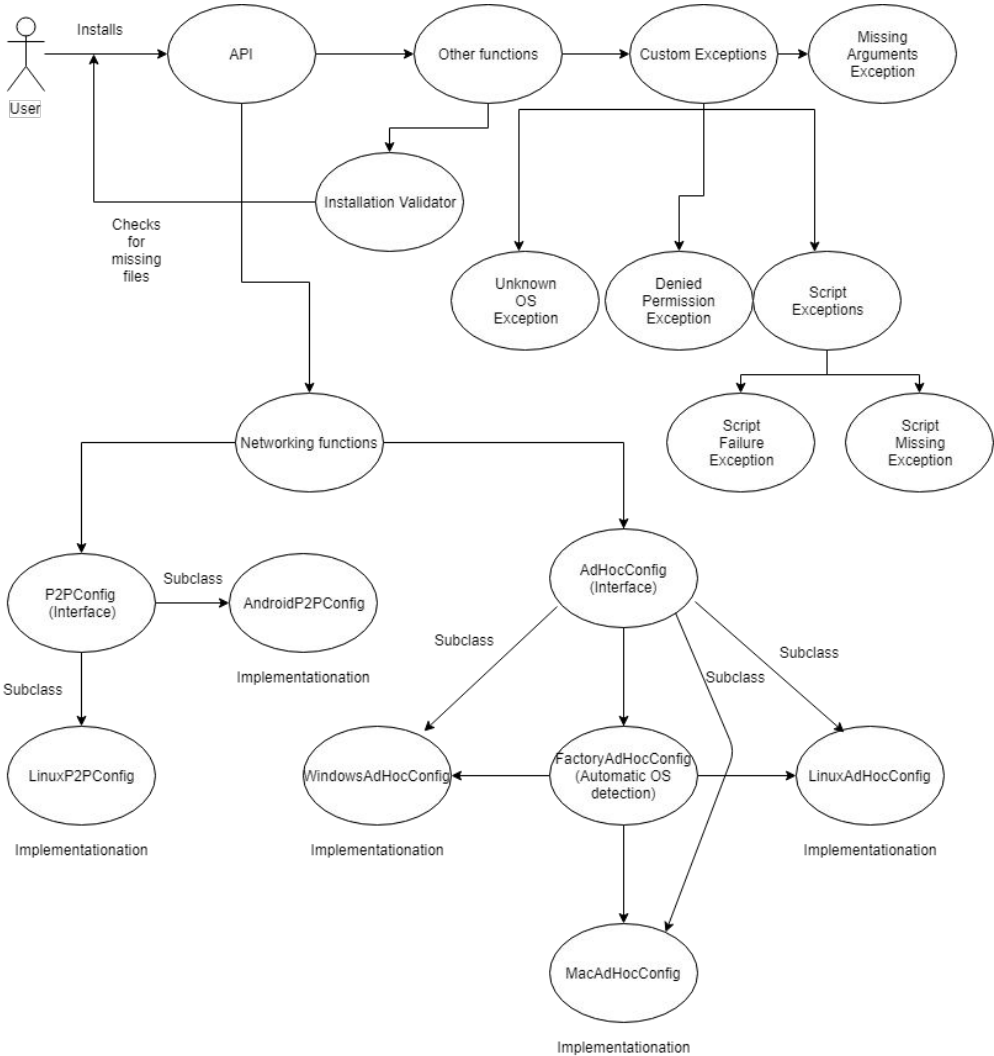
Android's P2P connection

- Novel Feature
- Largely underused

Technical Challenges

- Quickly identifying all peers on network to enable communication
- Unfamiliar with Android development
- Android cannot host Ad-hoc networks

System Architecture Design Diagram



Progress Summary

Task	Completion %	To Do
Automatic OS Detection	100%	None
API Logging	100%	None
OS Configuration Classes	100%	None
Ad-Hoc Support	90%	Method to detect other devices on a network; DHCP determined to be untenable as solution
Direct P2P Support	20%	Linux and Android only; Mac/Windows do not have accessible tooling for DirectP2P support

Milestone 4

- Complete DirectP2P support
- Complete Detect Devices on Network
- Implement Android P2P support

Milestone 5

- Create Showcase Poster
- Ensure that devices on a network can be automatically detected (no more verbally asking for the other IP address)
- Ensure each OS (now including Android) can connect via its preferred connection type to each other OS.
- Create Demo Application for Android

Milestone 6

- Create User Manual
- Create Demo Video

Milestone 4 Task Matrix

Task	Peter	Klaus	Michael	Robert
Complete DirectP2P support	30%	25%	20%	25%
Complete Detect Devices on Network	25%	25%	25%	25%
Implement Android P2P support	30%	17%	18%	35%

Questions?