

A Java API for unifying ad-hoc Wifi networking

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Milestone 5 (March 18)

- Create Showcase Poster
- Create Ebook Page
- Complete Direct P2P support
- Complete IP Discovery
- Implement Android P2P support
- Complete Demo Application

Milestone 5 Progress (1/2)

| Task | Completion % | Peter | Klaus | Michael | Robert | To Do |
|-----------------------------|--------------|-------|-------|---------|--------|----------------------|
| Create Showcase Poster | 100% | 25% | 25% | 25% | 25% | None |
| Create Ebook Page | 100% | 25% | 25% | 25% | 25% | None |
| Complete Direct P2P support | 85% | 43% | 0% | 0% | 42% | Peer group discovery |

Milestone 5 Progress (2/2)

| Task | Completion % | Peter | Klaus | Michael | Robert | To Do |
|-------------------------------|--------------|-------|-------|---------|--------|-----------------------|
| Complete IP discovery | 100% | 30% | 30% | 20% | 20% | None |
| Implement Android P2P support | 50% | 20% | 5% | 5% | 20% | Testing and bug fixes |
| Complete Demo Application | 100% | 0% | 50% | 50% | 0% | None |



Direct P2P

- Almost all functions implemented
- Currently need to investigate problems with p2p_find function of wpa_supplicant
- P2p_find is needed to get SSID of network and MAC address of the group owner
- Alternatives exist but none are as good or convenient as p2p_find

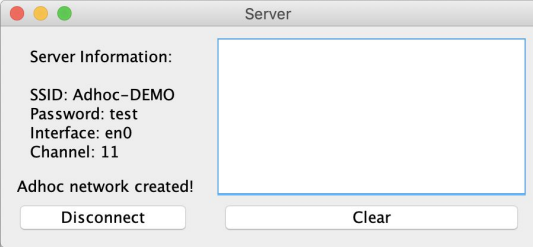


Android P2P

- All functions implemented
- Needs testing
- Testing can't be completed until Linux is complete
- We are beginning with testing the completed functions of Android and Linux
- We expect to encounter a fair amount of issues



Demo App

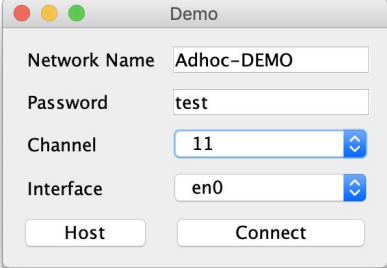


Server

Server Information:

SSID: Adhoc-DEMO
Password: test
Interface: en0
Channel: 11

Adhoc network created!



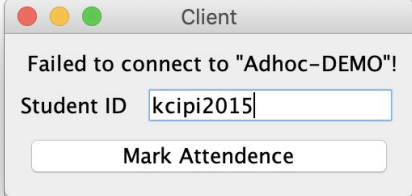
Demo

Network Name

Password

Channel

Interface



Client

Failed to connect to "Adhoc-DEMO!"

Student ID



Server Side

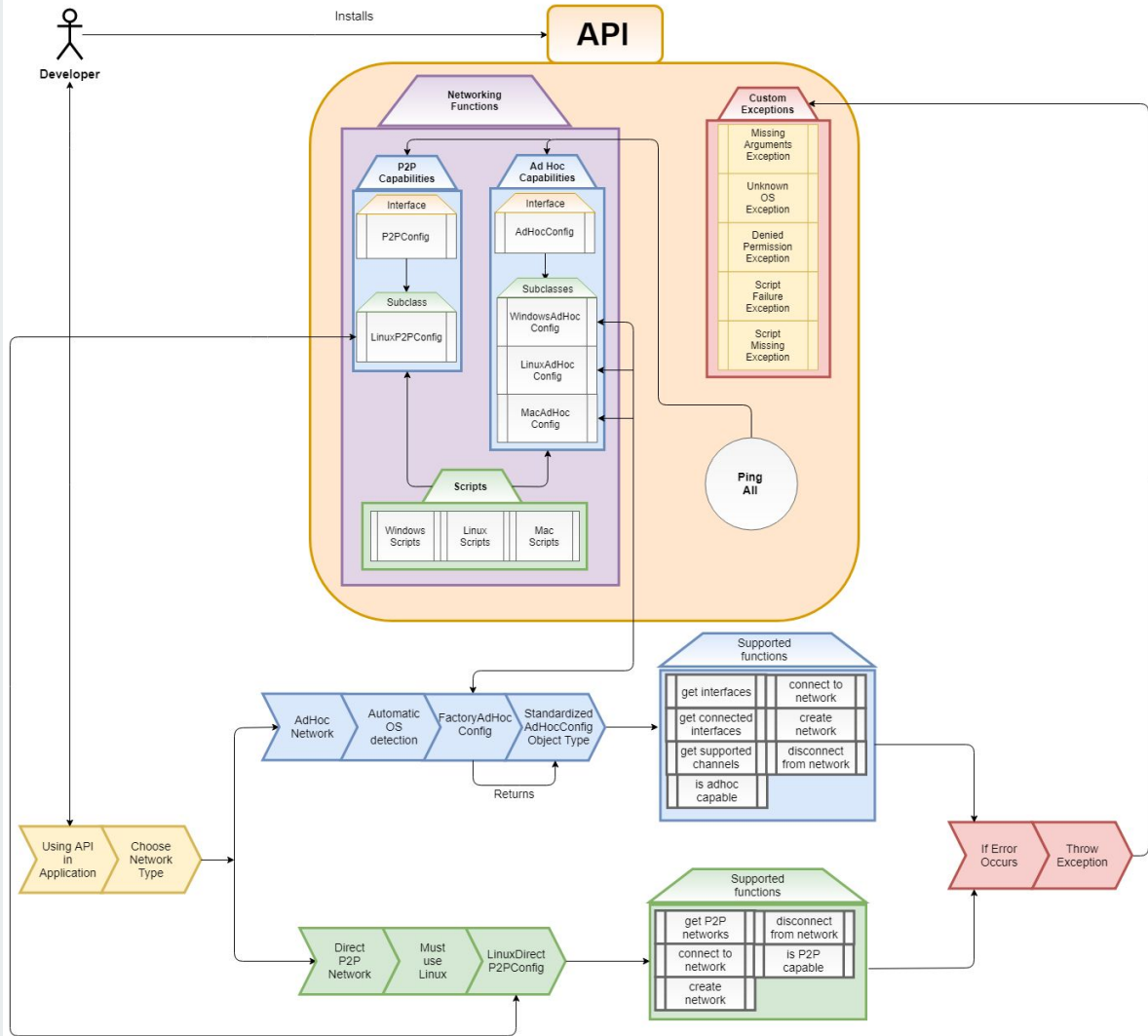
- Create Network
 - SSID and Password and GUI
 - Channel and Interface retrieved from Adhoc API
- Create TCP Server
 - After scanning the network for available IPs, set IP to 169.254.1.x
 - x ranges from 1-255
 - Using Adhoc API to create ServerSocket
 - Create a new thread when a connection is requested
 - Using semaphores to prevent collisions while updating the list of students
 - Reply back to the client that the exchange was successful and close connection



Client Side

- IP Discovery was changed
 - Ditched process builder method
 - Now use ExecutorService -> spawns 255 threads
 - See if other computer is reachable for each thread
 - Check thread results one by one and connect if it responded
- Convenient GUI
 - Enter SSID, Password, Channel, and Interface
 - Click connect!
 - GUI will tell you if a connection was established

System Diagram





Milestone 6 (April 15)

- Create User Manual
- Create Demo Video
- Finish Direct P2P
- Finish Android P2P support

Milestone 6 Matrix

| Task | Peter | Michael | Klaus | Robert |
|----------------------------|-------|---------|-------|--------|
| Create User Manual | 25% | 25% | 25% | 25% |
| Create Demo Video | 25% | 25% | 25% | 25% |
| Finish Direct P2P | 50% | 0% | 0% | 50% |
| Finish Android P2P support | 35% | 15% | 15% | 35% |

Demo:

[Click here!!!](#)

Questions?
