AND A LITTLE BIT OF iBEACONS

MULTIPEERCONNECTIVITY

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WHAT IS IT?

▸ MultipeerConnectivity is a framework by Apple introduced with iOS 7

▸ Available on iOS, tvOS, and macOS
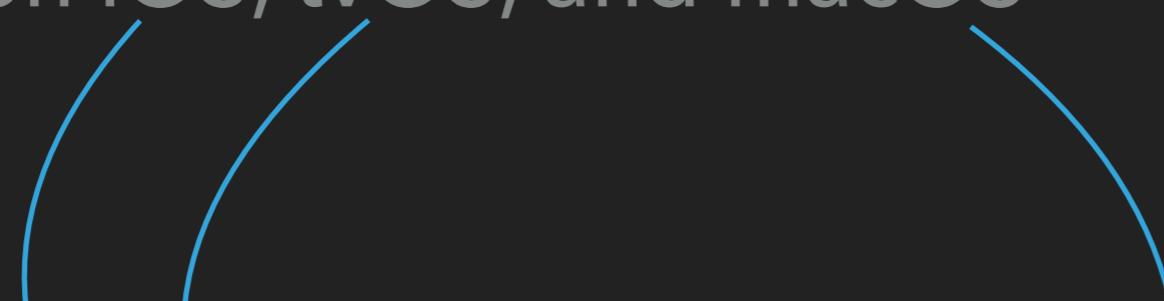
infrastructure Wi-Fi networks, peer-to-peer Wi-Fi, and Bluetooth

infrastructure Wi-Fi, peer-to-peer Wi-Fi, and Ethernet

WHAT CAN IT DO?
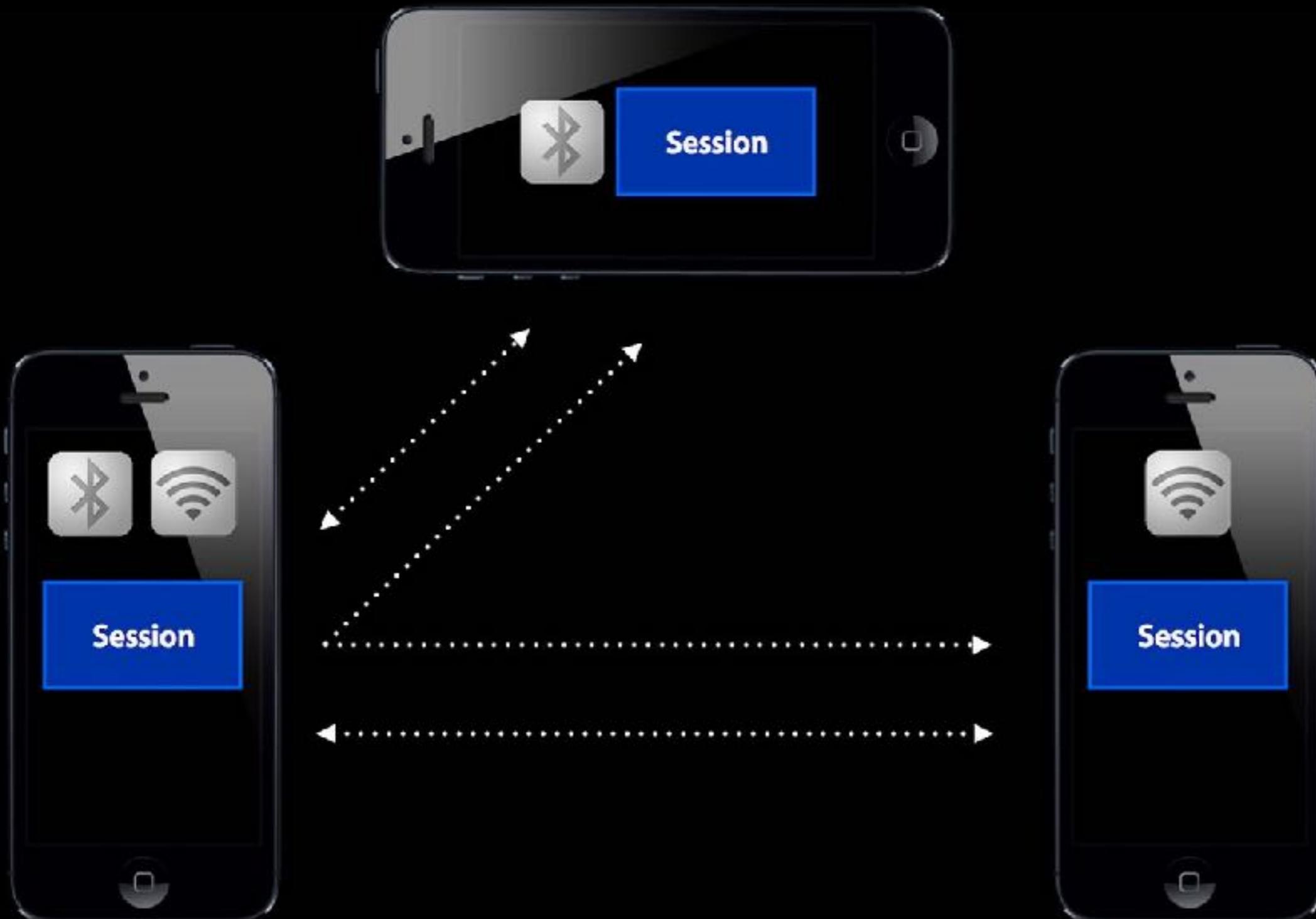
WHAT CAN IT DO?

▸ Mesh Networks out-of-the-box

▸ Send Data

▸ Streaming

▸ Send Files

▸ Send it unreliable
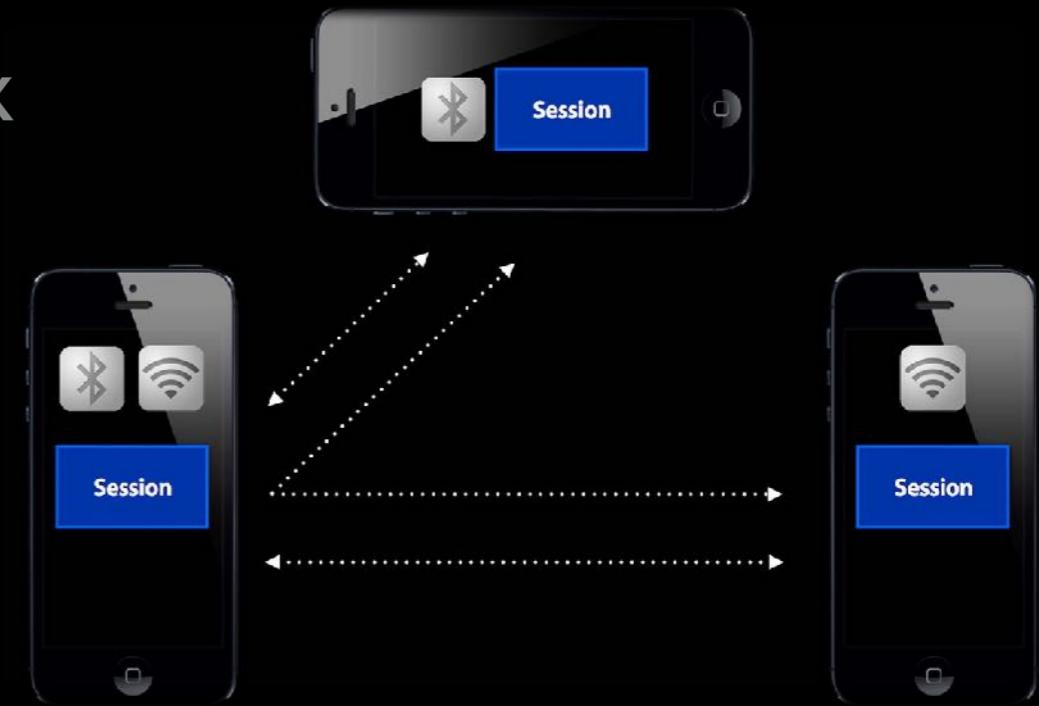
HOW TO DO IT?

```swift
let randomIdentifier = Int(arc4random_uniform(999))
self.peerID = MCPeerID(displayName: "Peer#\(randomIdentifier)")
self.mcSession = MCSession(peer: peerID, securityIdentity: nil, encryptionPreference: .none)


self.mcBrowser = MCNearbyServiceBrowser(peer: peerID, serviceType: MCController.service)
self.mcAdvertiser = MCNearbyServiceAdvertiser(peer: peerID, discoveryInfo: nil, serviceType:
                                              MCController.service)
…
self.mcBrowser.startBrowsingForPeers()
self.mcAdvertiser.startAdvertisingPeer()



do {
    try self.mcSession.send(„A really great String".data(using: String.Encoding.utf8)!, toPeers:
                            self.mcSession.connectedPeers, with: .reliable)
} catch {
        print(error)
}
```

HOW TO DO IT?

```
(999))
andomIdentifier)")
rityIdentity: nil, encryptionPreference: .none)


 peerID, serviceType: MCController.service)
(peer: peerID, discoveryInfo: nil, serviceType:
 MCController.service)
```

HOW TO DO IT?

```
(999))
andomIdentifier)")
rityIdentity: nil, encryptionPreference: .required)


 peerID, serviceType: MCController.service)
(peer: peerID, discoveryInfo: nil, serviceType:
 MCController.service)
```

CONCLUSION

▸ Easy pairing of up to 8 devices

▸ Span mesh-networks

▸ Send data to all with different reliable levels

▸ Encrypt the traffic

HOW BEACON TECHNOLOGY CAN SUPPORT MULTIPEER CONNECTIVITY

▸ How to notify a device?

▸ ~~Remote push notifications~~

▸ spawn an iBeacon on device

▸ Locale UserNotification if iBeacon detected

▸ 👎 no support for background advertising

▸ 👎 no support for tvOS and macOS

CORE BLUETOOTH

▸ support for iOS, macOS and(!) tvOS

▸ listening and advertising in background is possible but unreliable

▸ nearly impossible if both apps are in background

DEMO