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The Course Curriculum Checklist

Advanced WebRTC Architecture

1: The Basics of WebRTC

- ☐ Introduction
- ☐ What is WebRTC?
- ☐ Browsers and device coverage
- ☐ WebRTC APIs
- ☐ Resources

2: Networking Basics

- ☐ TCP and UDP
- ☐ HTTP
- ☐ WebSockets
- ☐ NAT traversal
- ☐ The 3 layers of VoIP
- ☐ Media quality metrics
- ☐ WebTransport

3: WebRTC Signaling

- ☐ Transport protocols in WebRTC
- ☐ Signaling protocols in WebRTC
- ☐ SDP
- ☐ Security
- ☐ Screen sharing

4: Codecs

- ☐ Basics of Voice codecs
- ☐ Opus
- ☐ Other voice codecs (and WebRTC)
- ☐ Basics of video codecs
- ☐ VP8 and H.264
- ☐ VP9 (and HEVC)
- ☐ AV1

5: Media Processing

- ☐ RTP and RTCP
- ☐ Bandwidth estimation
- ☐ Mesh
- ☐ Mixing (MCU)
- ☐ Routing (SFU)
- ☐ Recording
- ☐ AI in media

6: 3rd Party Frameworks and Services

- ☐ Development strategies for WebRTC
- ☐ Signaling alternatives
- ☐ Media server alternatives
- ☐ WebRTC PaaS
- ☐ VoIP frameworks
- ☐ Testing and monitoring

7: Common WebRTC Design Patterns

- ☐ Media flows in WebRTC
- ☐ Meetings recorder
- ☐ Multiparty conferences
- ☐ Webinars / Low latency live broadcasting
- ☐ PSTN connectivity
- ☐ Optimizing large group calls

8: Bonus Module

- ☐ WebRTC standardization
- ☐ Writing RFP requirements for WebRTC
- ☐ Machine learning basics
- ☐ Media algorithms
- ☐ Firewall configuration and best practices
- ☐ Mini: WebRTC server-side basics
- ☐ Mini: H.264 or VP8?
- ☐ Mini: Effectively connecting WebRTC sessions
- ☐ WebRTC 1.0
- ☐ testRTC overview
- ☐ Live: Video quality in WebRTC
- ☐ Live: Deploy (co)TURN on AWS