PATHAHEAD · FREE ROADMAP

Become an AR/VR (XR) Developer from Scratch

Build worlds people can step into. Go from zero to shipping AR apps on phones and VR experiences on headsets in about five months — the skills behind gaming, training, and the spatial web.

22	5	4	₹0
weeks · ~10–12 hrs/wk	XR projects	phases · to published XR	free tools · phone AR

A free PathAhead learning resource · adjust the pace to your life — the order matters more than the dates.

THE ONE RULE

Prototype in 3D → test on device → optimize

XR only feels real on a device. Build small, run it on your phone (or headset) early, and optimize relentlessly — a smooth simple scene beats a beautiful slideshow every time.

> **Legal & ethical use only.** No headset needed to start: a recent Android phone covers all of mobile AR, and Unity's XR Device Simulator lets you build VR interactions before you ever touch a Quest.

THE ROADMAP

Four phases, step by step

0 Foundations

Weeks 1–5

C#, Unity, and thinking in three dimensions.

WEEK 1
C# basics
Variables, methods, classes — Unity's language.

WEEK 2
Unity editor
Scenes, GameObjects, components, play mode.

WEEK 3
3D intuition
Vectors, transforms, rotation — without heavy math.

WEEK 4
Physics & interaction
Rigidbodies, colliders, triggers, input.

WEEK 5
Git for Unity
Version control that survives binary assets.

1 Unity Depth

Weeks 6–11

From empty scene to polished mobile AR.

WEEK 6
UI & prefabs
Reusable objects and world-space interfaces.

WEEK 7
Animation & audio
Animator, timelines, spatial sound basics.

WEEK 8
Materials & lighting
Make scenes look good on a budget.

WEEK 9
AR Foundation
Plane detection and anchors on your own phone.

WEEK 10
AR interaction
Place, scale, and manipulate virtual objects.

WEEK 11 · PROJECT ▶
AR placement app
A furniture/poster previewer running on your phone.

2 VR Development

Weeks 12–17

Presence, hands, and comfort — real VR skills.

WEEK 12

XR Interaction Toolkit

Rigs, controllers, grabbing and UI in VR.

WEEK 13

Locomotion

Teleport vs smooth movement — comfort first.

WEEK 14

Hands & interaction design

Natural grabbing, poking, and feedback.

WEEK 15

Standalone optimization

Hit frame rate on Quest-class hardware.

WEEK 16

Polish & haptics

Sound, vibration, and juice that sells presence.

WEEK 17 · PROJECT ▶

VR experience

A room-scale game or training scene (simulator OK).

3 Ship & Portfolio

Weeks 18–22

XR UX, performance, and published proof.

WEEK 18

XR UX rules

Comfort, motion sickness, readability in space.

WEEK 19

Profiling

Find and fix what's eating your frame rate.

WEEK 20

WebXR taste

A browser-based XR scene anyone can open.

WEEK 21

Publishing

Play Store for AR; App Lab route for VR.

WEEK 22 · CAPSTONE ▶

Published XR app

A polished AR or VR project, public and documented.

BUILD A PORTFOLIO

Five projects that get you hired

Projects beat certificates. Do them in order — each builds on the last. Put every one on GitHub with a clear README: problem → approach → result.

Start here

1 · 3D Mini-Game

A simple Unity game — proves C#, physics, and scene skills.

Mobile AR

2 · AR Placement App

Place and scale 3D furniture in your real room via phone.

VR

3 · VR Interaction Scene

Grab, throw, and manipulate objects with full comfort options.

In demand

4 · AR Learning App

An educational AR experience — anatomy, planets, or machines.

Capstone

5 · Published XR Experience

A complete app on the Play Store or shared as WebXR.

ROLES YOU CAN APPLY FOR

AR/VR Developer · Unity Developer · XR Interaction Designer · 3D Application Developer

TYPICAL STARTING SALARY · INDIA

₹4–12 LPA

LEARN IT

Learning resources

Every item links to the real source (clickable in this PDF).

BOOKS

- Augmented Reality Principles and Practice by Dieter Schmalstieg and Tobias Hollerer
- Learning Virtual Reality by Tony Parisi
- Understanding Virtual Reality by William Sherman and Alan Craig

COURSES

- Unity Learn XR (free)
- Introduction to Virtual Reality by Coursera
- Introduction to Augmented Reality and ARCore by Coursera
- XR Development by Meta on Coursera

YOUTUBE

- Valem Tutorials
- Dilmer Valecillos
- Brackeys

PRACTICE

- Unity Asset Store
- GitHub
- Meta Quest Developer Hub

DO THIS TODAY

Your first step (takes 30 minutes)

1

Install Unity Hub

unity.com — free personal license, the industry-standard XR engine.

2

Do 'Create with Code' hour one

Unity Learn's free path — you'll move a player around today.

3

Run the AR sample on your phone

AR Foundation samples — see a cube sit on your real desk.

Job-ready checklist: 3–5 solid projects on GitHub (≥1 deployed or documented) · can explain your work in an interview · comfortable with the core tools of the field · a portfolio or profile recruiters can find.

PathAhead — India's premium career guidance platform. This roadmap is a free educational resource; timelines are a guide and everyone learns at a different pace. Referenced third-party resources (Unity Learn, Meta Quest Developer Hub, Google Codelabs, Valem Tutorials, Brackeys) are for learning only and are not affiliated with PathAhead.