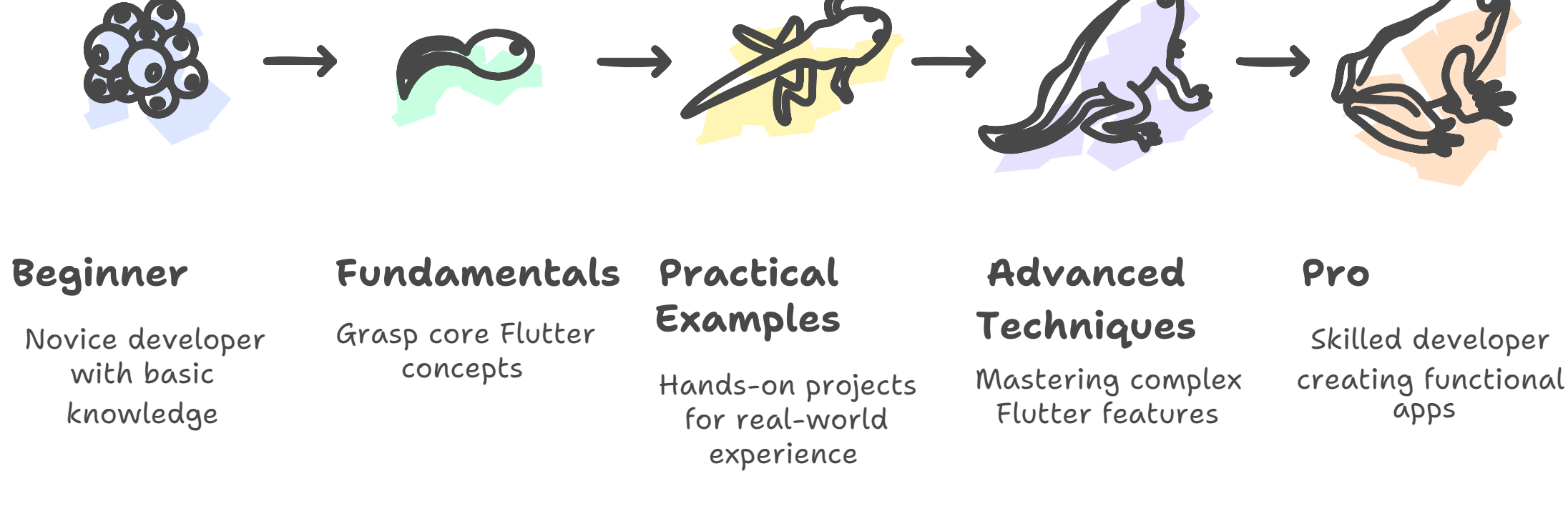
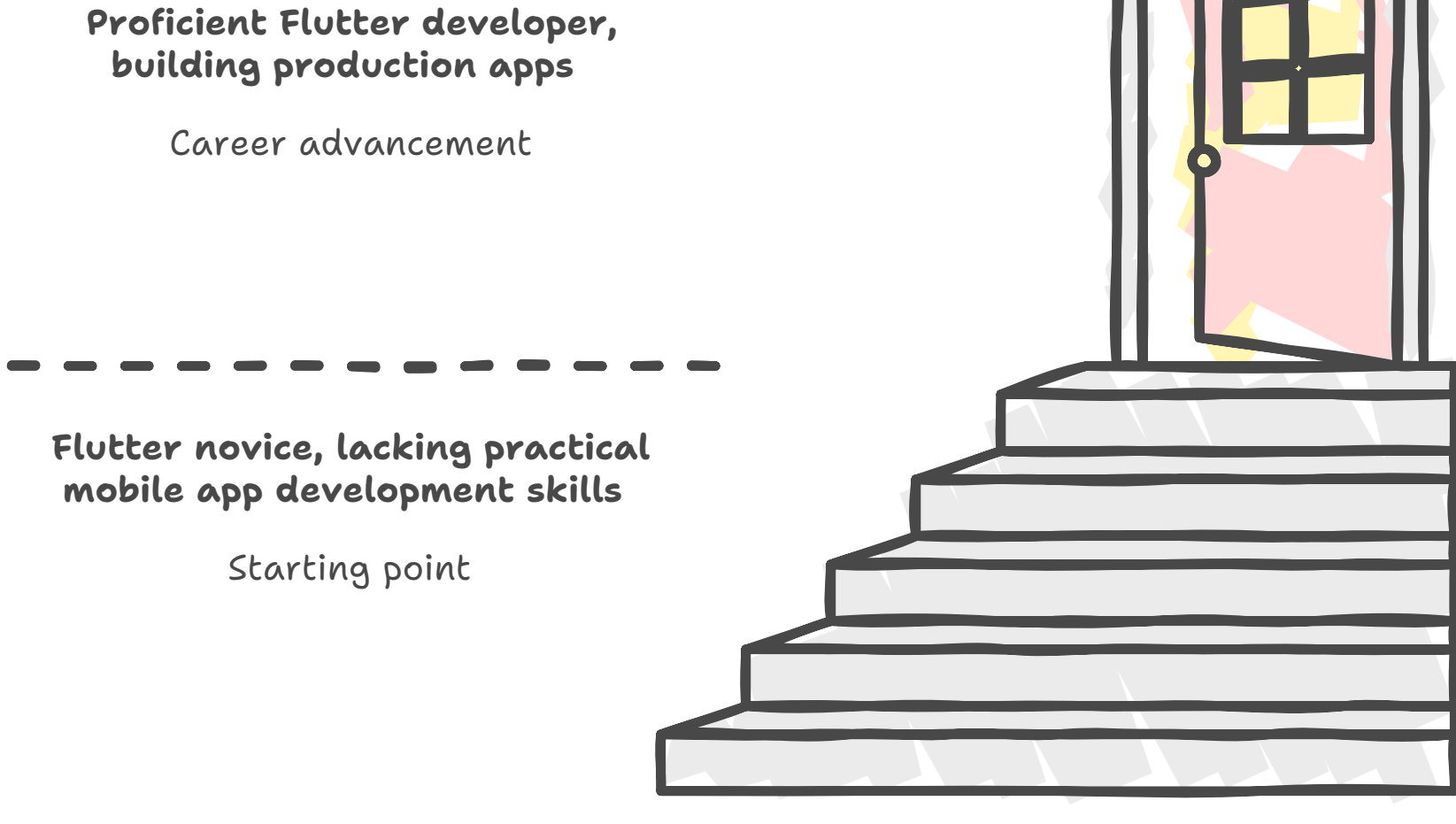


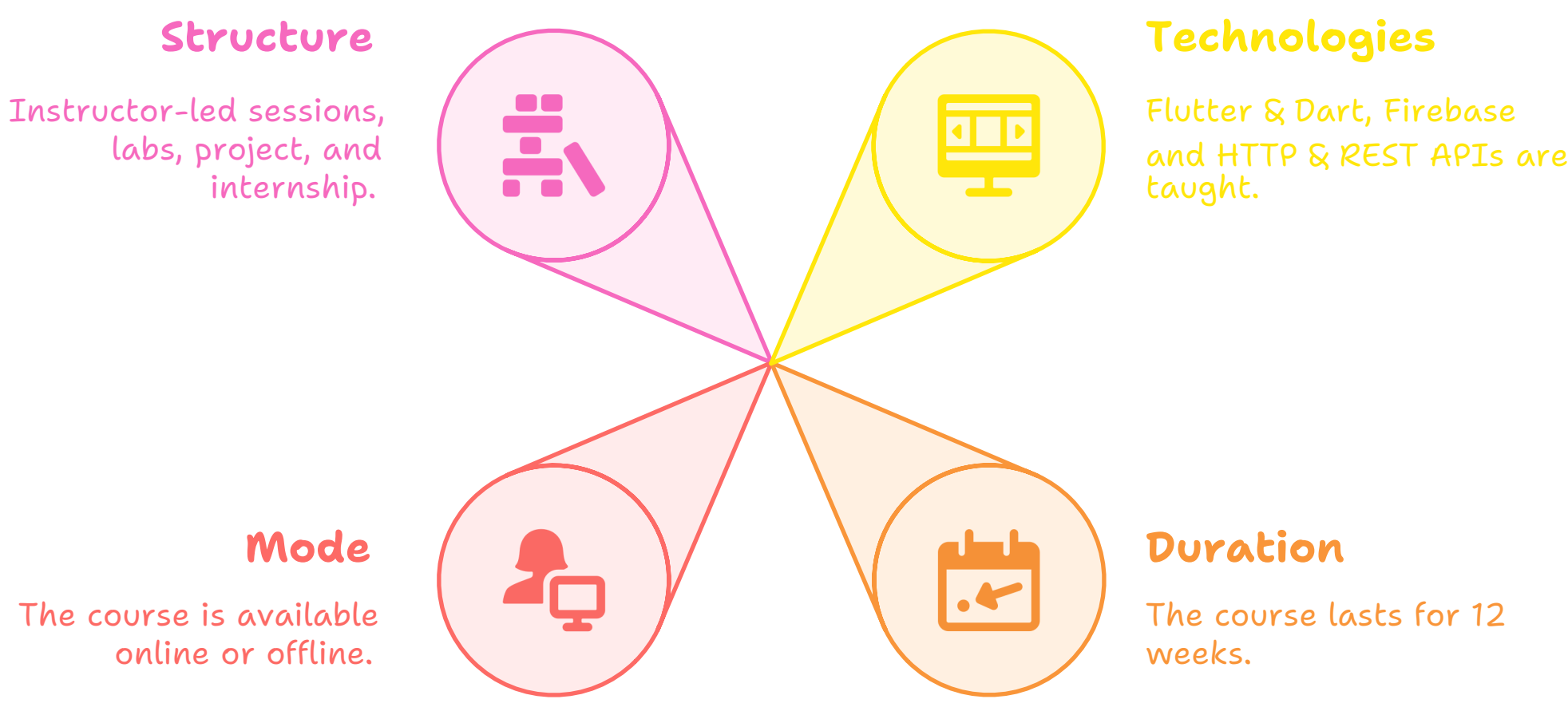
## Flutter App Development Journey



## Transform Flutter beginners into proficient mobile app developers.



## Course components



## Course Structure

**Course Duration:** 3 Months (12 Weeks)  
**Mode:** Online – Instructor-led + Guided Assignments

This document outlines a comprehensive 3-month online course designed to transform individuals from Flutter beginners to proficient developers capable of building and deploying production-level mobile applications. The course covers foundational Dart programming, Flutter UI development, state management, data persistence, API integration, Firebase services, animations, testing, debugging, optimization, and deployment to the Google Play Store. Through instructor-led sessions, guided assignments, mini-projects, and a capstone project, students will gain practical experience and build a portfolio showcasing their skills.

## Month 1 – Beginner (Foundations)

### Week 1

- Intro to Dart:
  - Variables, datatypes, operators
  - Functions, Control Flow (if, loops, switch)
  - Dart OOP Basics (classes, objects, constructors)
- Assignment: Console-based calculator

### Week 2

- Flutter SDK & IDE setup (VS Code, Android Studio)
- Flutter Project Structure & Hot Reload
- Basic Widgets (Scaffold, AppBar, Text, Image, Buttons)
- Layouts (Row, Column, Stack, Container)

### Week 3

- Styling & Theming (colors, fonts, global theme)
- User Input (TextField, Forms, validation)
- GestureDetector & Button interactions
- Mini Project:** Business Card & To-Do List App

### Week 4

- Stateful vs Stateless Widgets
- State Management with setState
- Navigation (push/pop, named routes)
- Mini Project:** Multi-Screen Navigation App

## Month 2 – Intermediate (Real Apps)

### Week 5

- Deep Dive into Navigation (drawer, bottom navigation bar, tabs)
- Provider (Intro to global state management)
- Mini Project:** Shopping Cart with Provider

### Week 6

- Async & Await in Dart
- REST APIs with HTTP package
- JSON Parsing (manual + model classes)
- FutureBuilder & StreamBuilder

### Week 7

- Local Data Storage (SharedPreferences, SQLite)
- Cloud Storage (Firebase Firestore basics)
- Mini Project:** Notes App with local & cloud save

### Week 8

- Firebase Authentication (Email/Password)
- Login/Signup Flow
- Error Handling & Validation
- Mini Project:** Login + Profile App

## Month 3 – Advanced (Production Level)

### Week 9

- Animations (implicit, explicit, Hero animations)
- Page Transitions (fade, slide, custom routes)
- Dark/Light Mode Toggle

### Week 10

- Firebase CRUD (Add, Update, Delete in Firestore)
- Push Notifications (Firebase Cloud Messaging)
- Reusable Custom Widgets & Best Practices
- Mini Project:** Notes CRUD + Notification App

### Week 11

- Testing (Unit tests, Widget tests)
- Debugging (DevTools, performance profiling)
- Optimizations (widget rebuilds, const keyword, async best practices)

### Week 12

- Deployment (APK & App Bundle creation)
- Play Store Release (internal testing, rollout process)
- Capstone Project Finalization & GitHub Portfolio Setup
- Student App Presentation & Demo

## Capstone Project (Pro Level)

- Expense Tracker / HR Management / Task Manager App
- Features:** Authentication, CRUD, API Integration, Notifications, Animations, Dark Mode
- Deployed to **Play Store**
- GitHub + Certificate Showcase

## Real-Time Use Case Mapping

- HR Apps:** Leave request, attendance tracking, push notifications
- ERP/E-Commerce:** Shopping cart, CRUD operations
- Task/Project Management:** Assignments, to-dos, expense tracking
- Business Dashboards:** Fetching API data, analytics UI
- Client Mobile Apps:** Polished UI, theming, Play Store publishing

## Key Achievements in Flutter Development Course

### Completion Certificate

Validates course completion and skills.

### Capstone Project

Published app showcasing advanced skills.

### GitHub Portfolio

Demonstrates practical coding experience.

