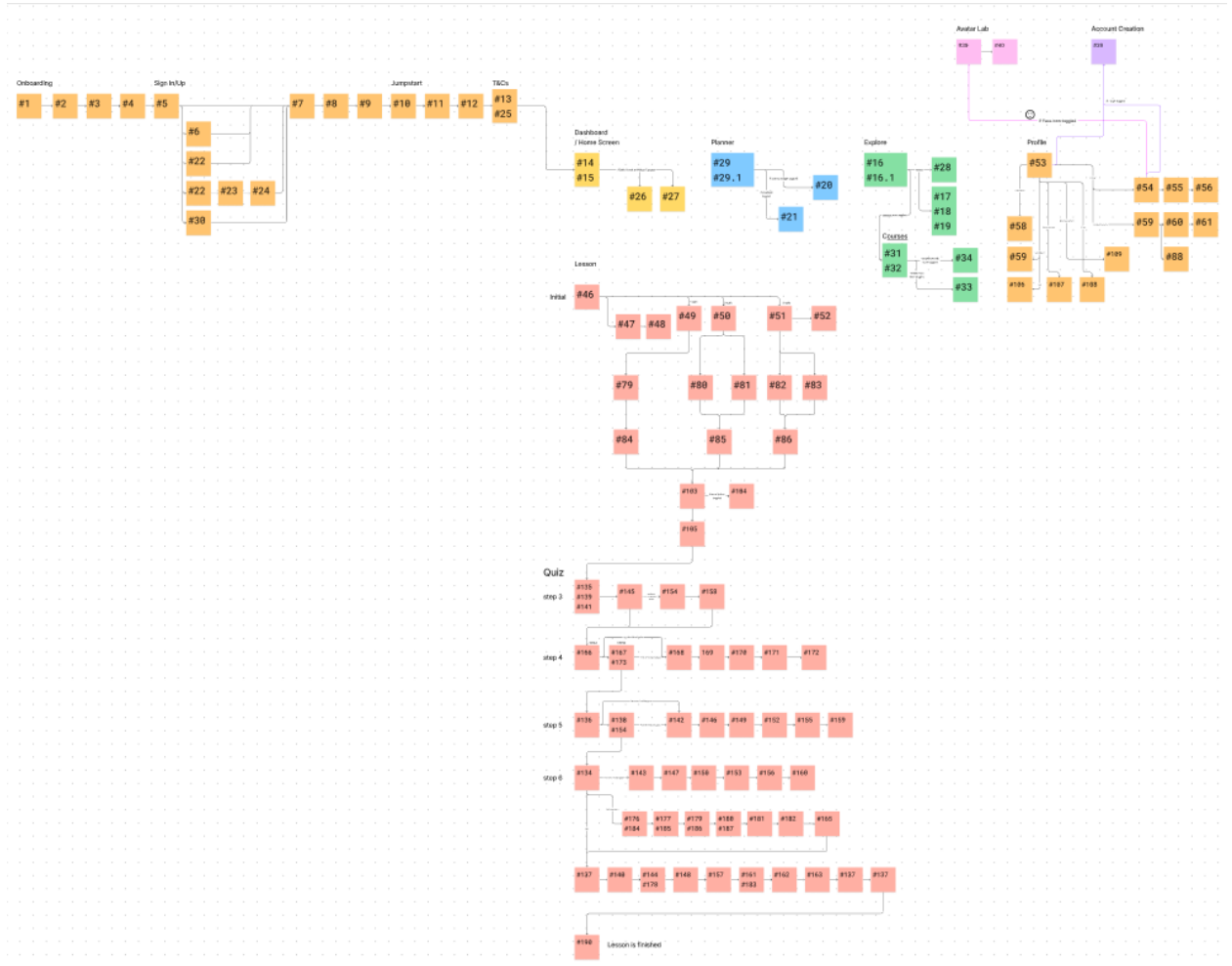


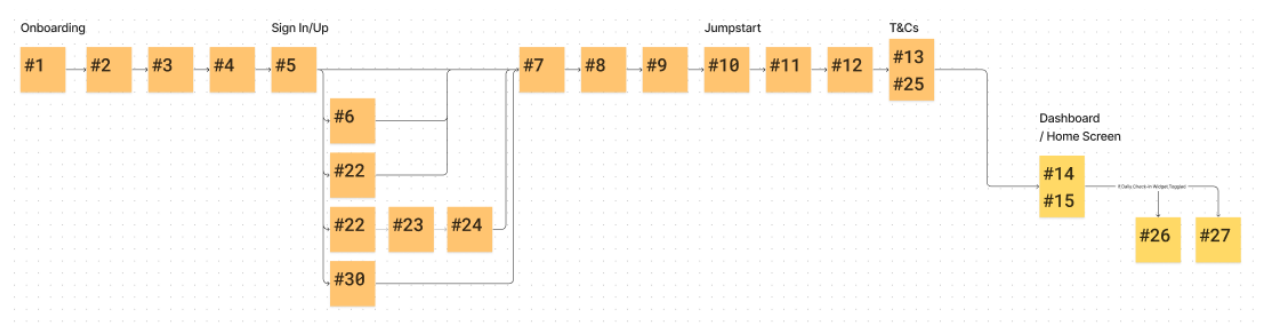
# Design Documentation

## Architectural Design

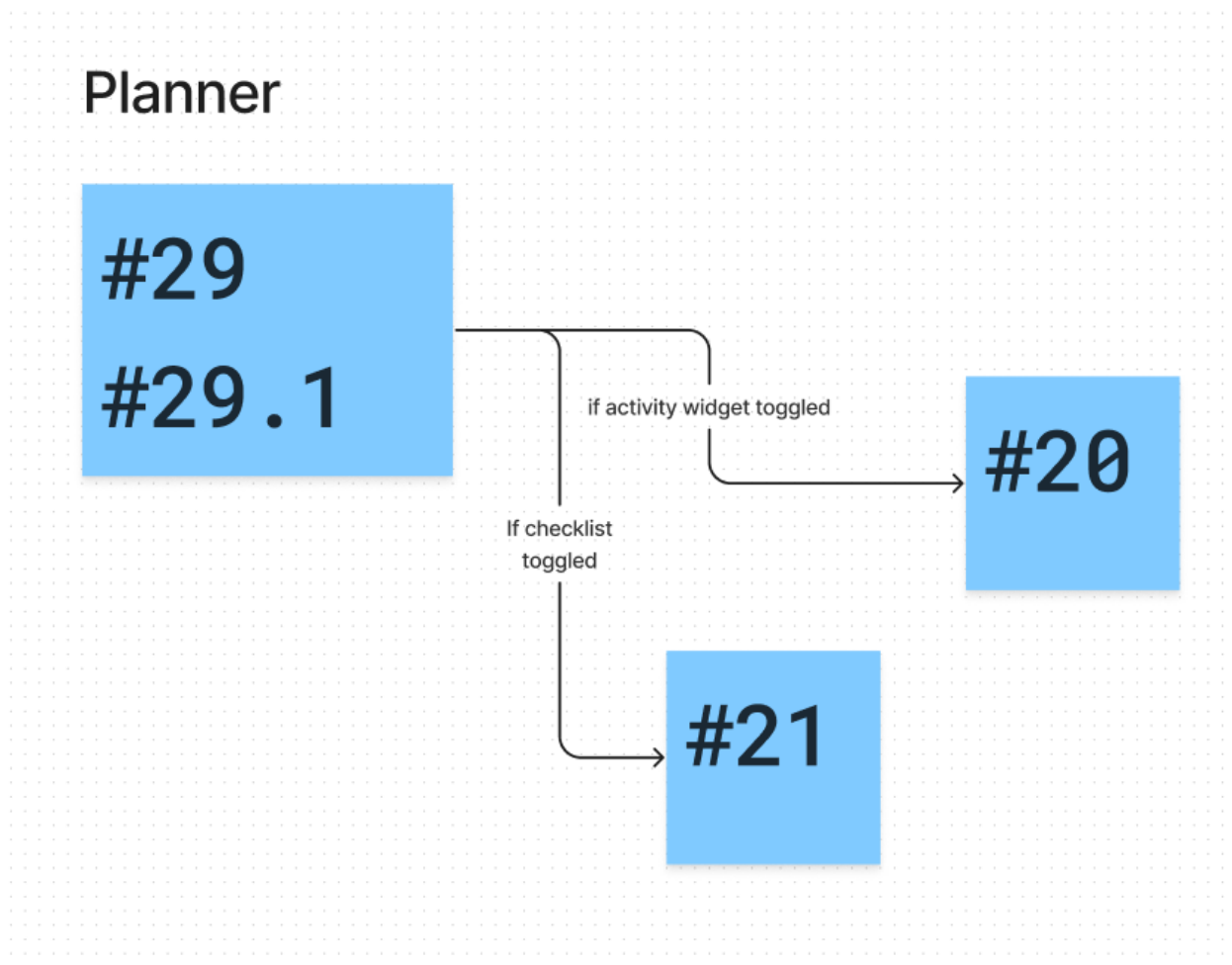
### Full Body



### Jumpstart

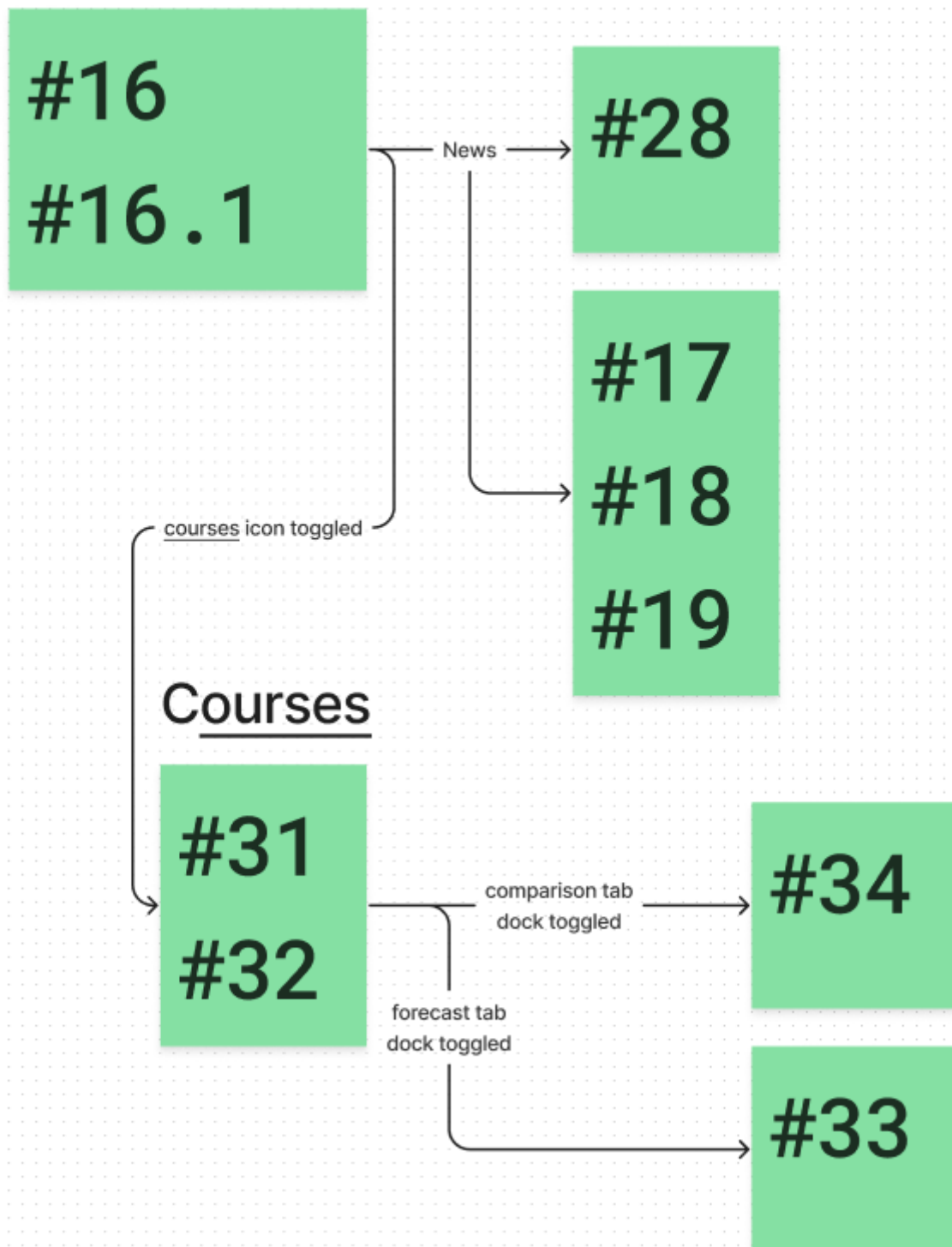


## Planner

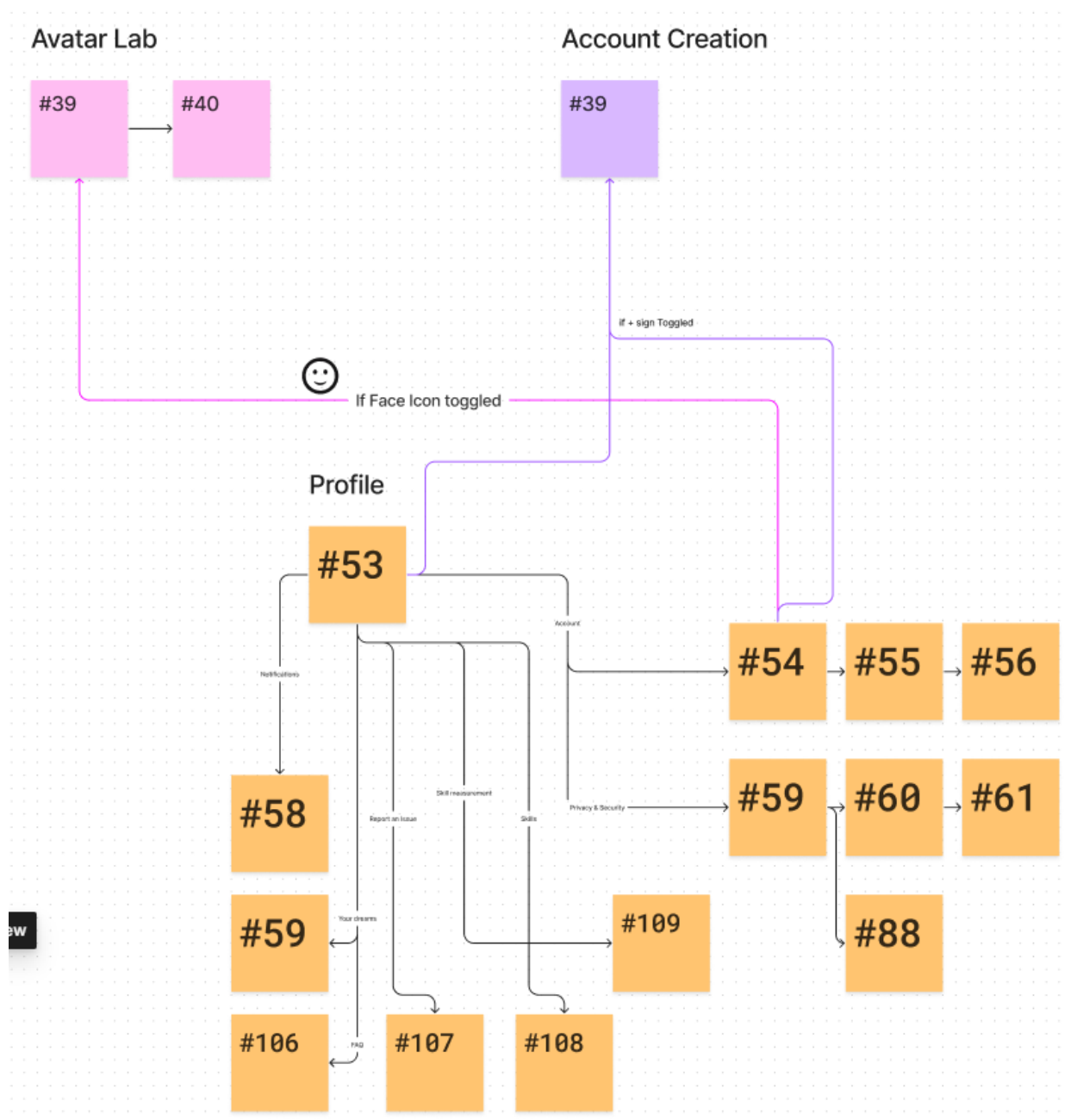


## Explore

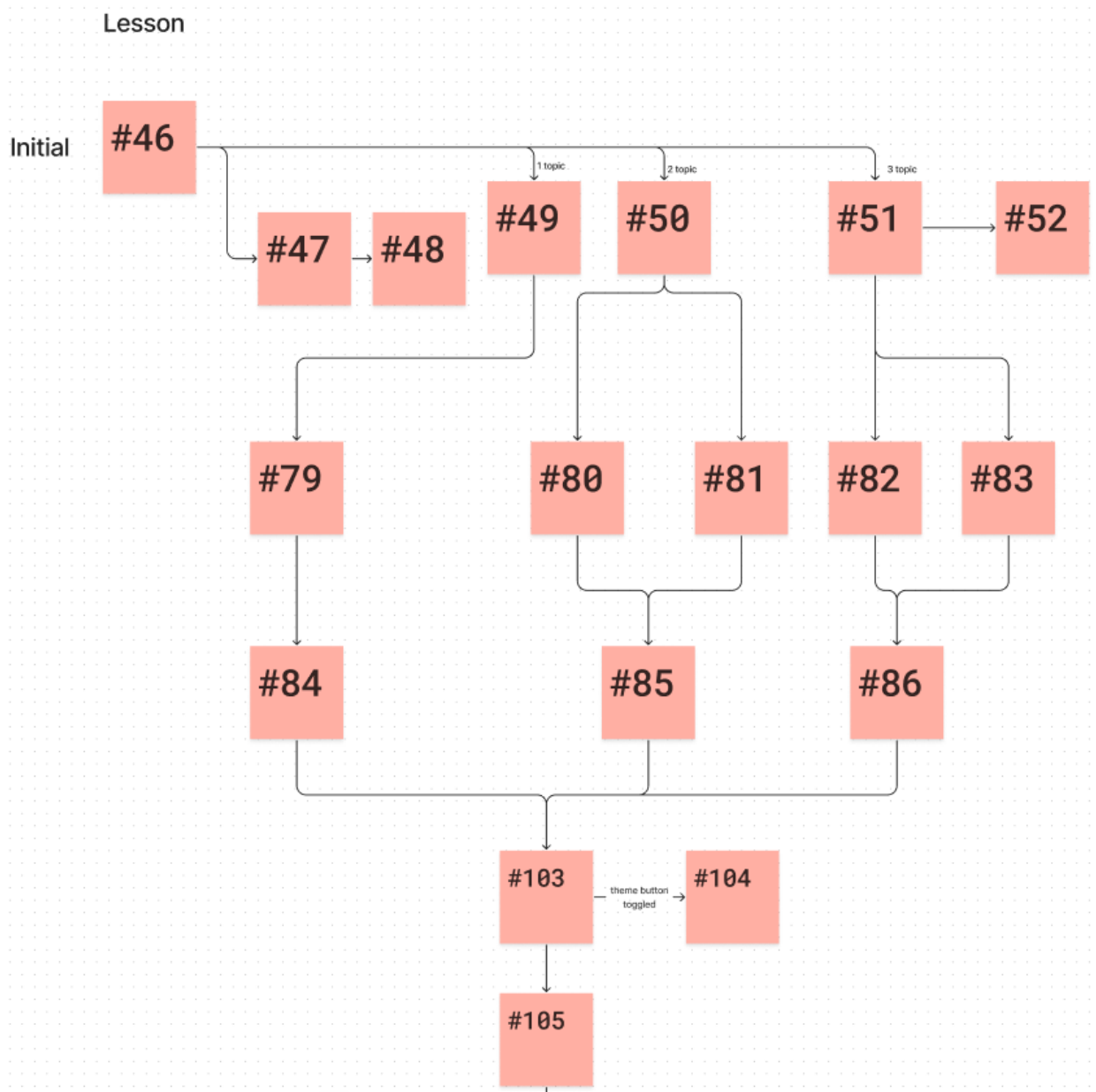
## Explore



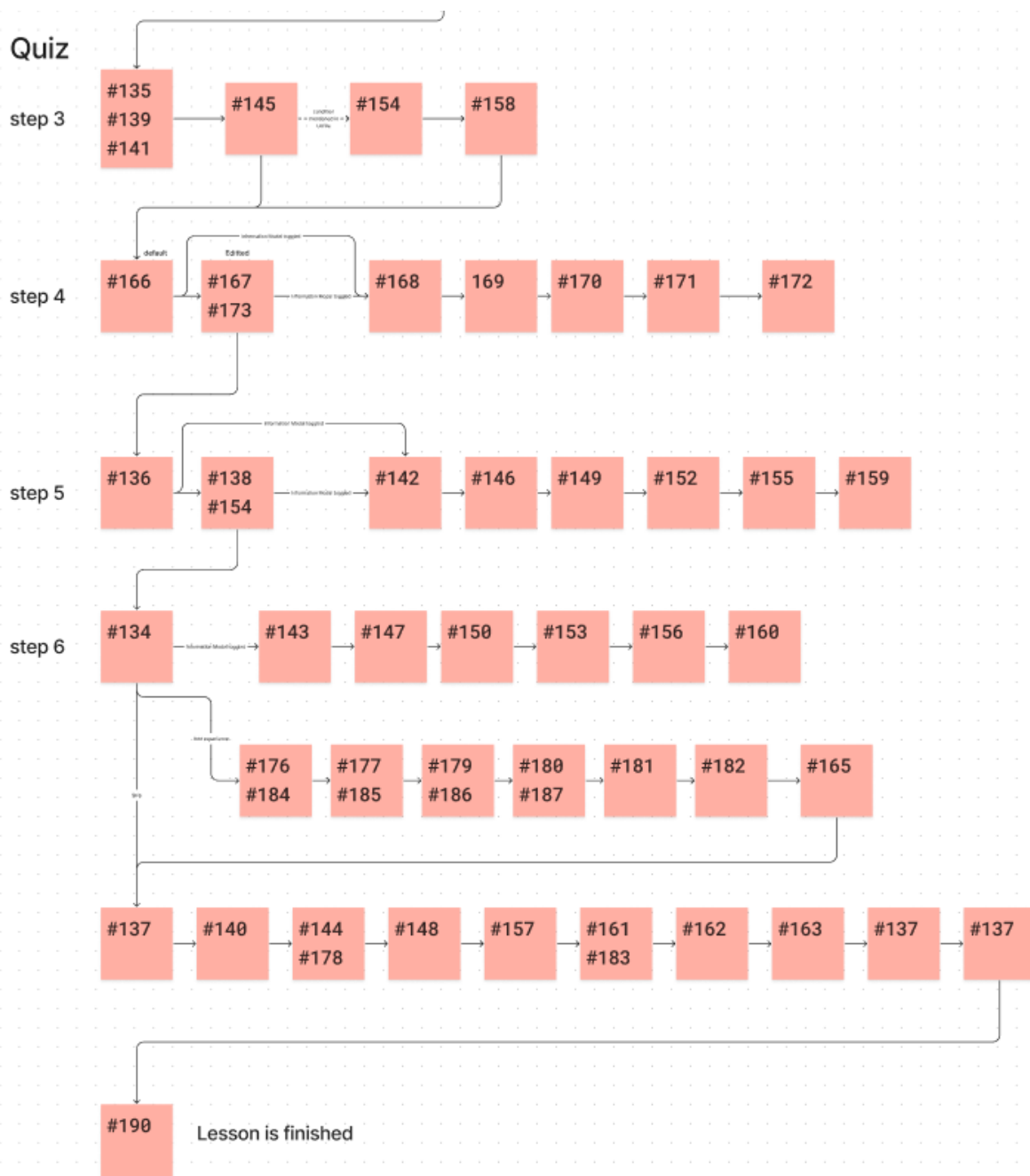
## Profile



## Lesson



## Quiz



## Detailed Design

Ivan Logutov & Artur Yurchenko

Req. ID	Requirement Description	Justification	Data Structures	Dependencies for Swift/Android Development	Test Result
RQ1	User can create a new account	Enable users to access personalized content	User database	Swift: Authentication Framework Android: Authentication Library	Pass
RQ2	User can log in to the system	Secure access to user-specific information	Authentication	Swift: Authentication Framework Android: Authentication Library	Pass
RQ6	User receives notifications	Stay informed about interactions and updates	Notification system	Swift/Android: Push Notification Service	Pass
RQ7	User can edit their profile	Personalize and update user information	User profile data	Swift/Android: User Interface Library	Pass
RQ8	User can delete their account	Provide an option to permanently remove account	User database	Swift/Android: Account Management Library	Pass
RQ9	User can start a course	Begin educational programs	Course information	Swift/Android: Educational Content Library	Pass
RQ10	User can complete a programming level	Demonstrate proficiency in programming skills	Progress tracking	Swift/Android: Progress Tracking Library	Pass
RQ11	User can complete an assignment	Mark assignment as completed or not completed	Assignment data	Swift/Android: Assignment Management Library	Pass
RQ12	User can choose another course	Explore different educational options	Course selection data	Swift/Android: Course Selection Library	Pass
RQ13	User can access coding exercises	Practice coding skills through exercises	Coding exercise data	Swift/Android: Coding Exercise Library	Pass
RQ14	User can view code solutions	Learn from example solutions to coding exercises	Solution database	Swift/Android: Coding Exercise Library	Pass
RQ16	User can view progress analytics	Track and analyze personal progress in programming	Analytics data	Swift/Android: Analytics Library	Pass
RQ17	User can access video lectures	Learn through video-based educational content	Video lecture data	Swift/Android: Video Streaming Library	Pass
RQ18	User can download course materials	Access educational materials offline	Downloadable files	Swift/Android: Download Manager Library	Pass
RQ19	User can receive real-time coding feedback	Get immediate feedback on coding exercises	Feedback engine	Swift/Android: Real-time Feedback Library	Pass
RQ20	User can share achievements on social media	Share progress and accomplishments on social platforms	Social media integration	Swift/Android: Social Media API	Pass
RQ22	User can bookmark favorite coding challenges	Save and revisit preferred coding challenges	Bookmarking system	Swift/Android: Bookmarking Library	Pass

RQ23	User can access coding tutorials	Learn programming concepts through step-by-step guides	Tutorial data	Swift/Android: Tutorial Presentation Library	Pass
RQ24	User can customize coding environment	Adapt the coding environment to personal preferences	Customization settings	Swift/Android: User Interface Library	Pass
RQ25	User can earn virtual badges	Receive badges for completing challenges and milestones	Badge system	Swift/Android: Badge Management Library	Pass
RQ28	User can export progress data	Save and analyze personal progress data	Export feature	Swift/Android: Data Export Library	Pass
RQ29	User can set coding goals	Establish and track individual coding objectives	Goal-setting features	Swift/Android: Goal-setting Library	Pass
RQ30	User can provide feedback on course content	Contribute input to improve the quality of course material	Feedback system	Swift/Android: Feedback Management Library	Pass
RQ31	Admin can create a new course	Add new courses to the platform	Course management	Swift/Android: Course Management Library	Pass
RQ32	Admin can edit existing course details	Modify information about existing courses	Course management	Swift/Android: Course Management Library	Pass
RQ33	Admin can delete a course	Remove outdated or irrelevant courses	Course management	Swift/Android: Course Management Library	Pass
RQ34	Admin can create a new exam	Add new exams to the platform	Exam management	Swift/Android: Exam Management Library	Pass
RQ35	Admin can edit existing exam details	Modify information about existing exams	Exam management	Swift/Android: Exam Management Library	Pass
RQ36	Admin can delete an exam	Remove outdated or irrelevant exams	Exam management	Swift/Android: Exam Management Library	Pass

## Database Design

[go to database architecture.pdf](#)