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CAPSTONE PROPOSAL

MOBILE APPLICATION DEVELOPMENT

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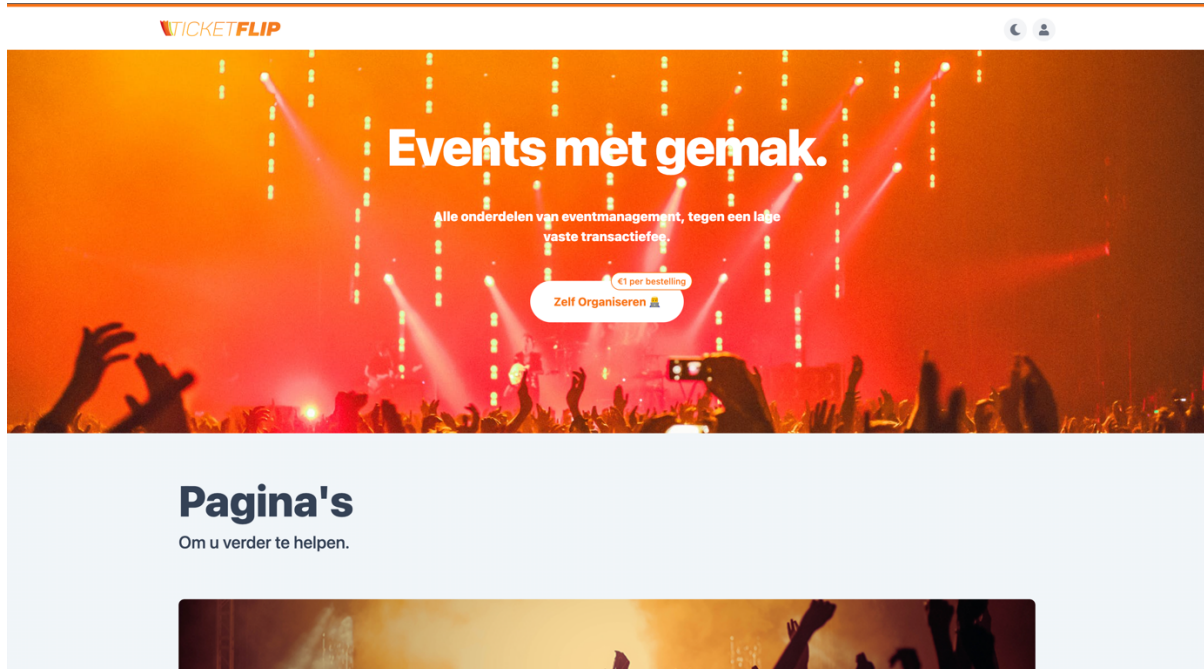


FIGURE 1: TICKETFLIP.NL

An app written in Jetpack Compose that is able to scan QR codes, validate tickets through an existing API and make use of modern material 3.0 elements to display event statistics.

The entertainment industry has always relied on expensive ticketing options that cost a lot of money. The web application (ticketflip.nl) that I have created tries to make ticketing easy and allows sellers to create an event page to sell tickets. The tickets are handed out and must be scanned at the door, but an app must be created for this.

Currently I have made an react native app that does the bare minimum but it does not suffice and there are a lot of problems with the current design. Beside that it forces the user to download an unsafe APK file. I want to change this by developing natively In Android Jetpack Compose and uploading the app to the play store (which I have already bought and verified).

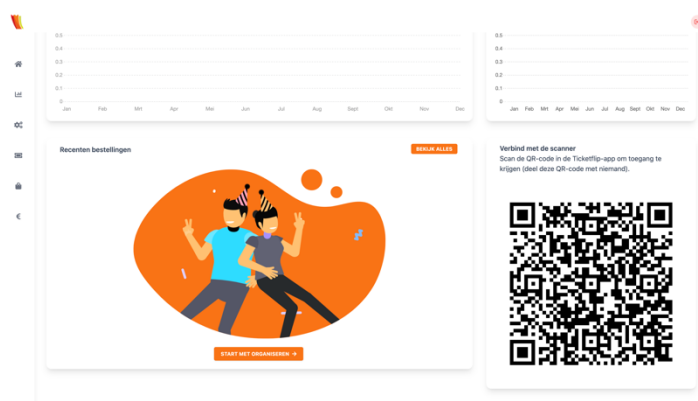


FIGURE 2: DASHBOARD TICKETFLIP.NL

The web app allows for authentication through a QR code so a user can open the app and scan the QR code for a token.

There is a backend with all the necessary routes like:

- /scan
- /verify-user
- /read-events

MAKE

The app will have the following features:

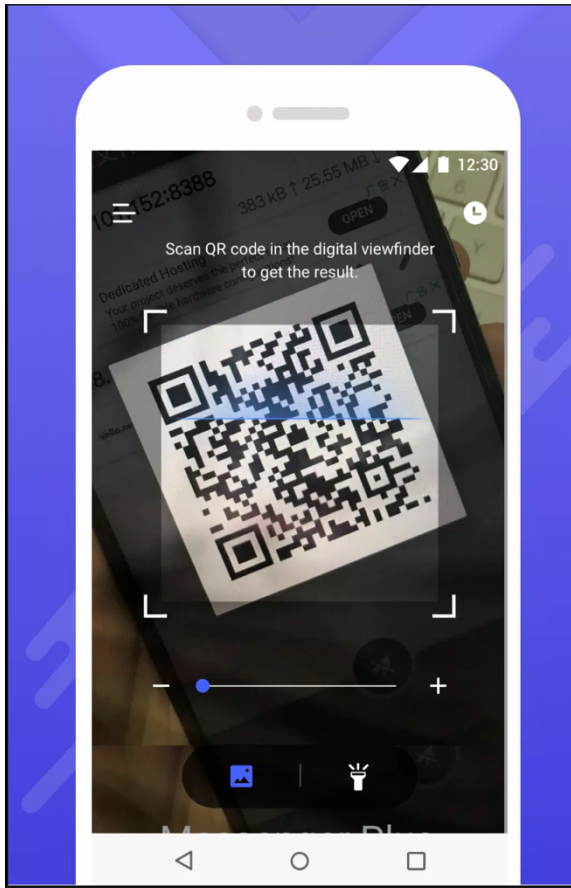


FIGURE 3: EXAMPLE SCANNING SCREEN

The user can scan a QR code and receive a token that will be stored and used to make requests.

The user can see all upcoming events and see check-in statistics so that the person scanning knows when he is finished.

The user can press on an event and a camera view will appear with a box (indicator) so that he/she can scan a ticket.

The user will see the screen turn green, red or see a message if the ticket is validated. The scanning has a time delay so that a ticket is not accidentally scanned.

The user can see if they meet all requirements (internet connection, scanning a past event) for scanning a ticket, otherwise they can't open the screen.

The app will have the following elements:

1. The app will be made in Jet pack Compose using material 3.0 stable version (and default material to fill in the blanks)
2. Splash screen (Ticketflip icon and orange wallpaper)
3. Access screen (Logo and button to scan access QR code)
4. Camera view with a mask that indicates result by color.
5. Scaffold
 - a. Material 3.0 - Top Bar
 - b. Material 3.0 - Bottom navigation (Events & Profile)
 - c. LazyColumn for events
6. View models
 - a. ScanningViewModel for handling scanning business logic.
 - b. EventViewModel for handling event business logic.
 - c. UIViewModel for managing global UI state.
 - d. AuthViewModel for storing the access code and making requests.

DESIGN

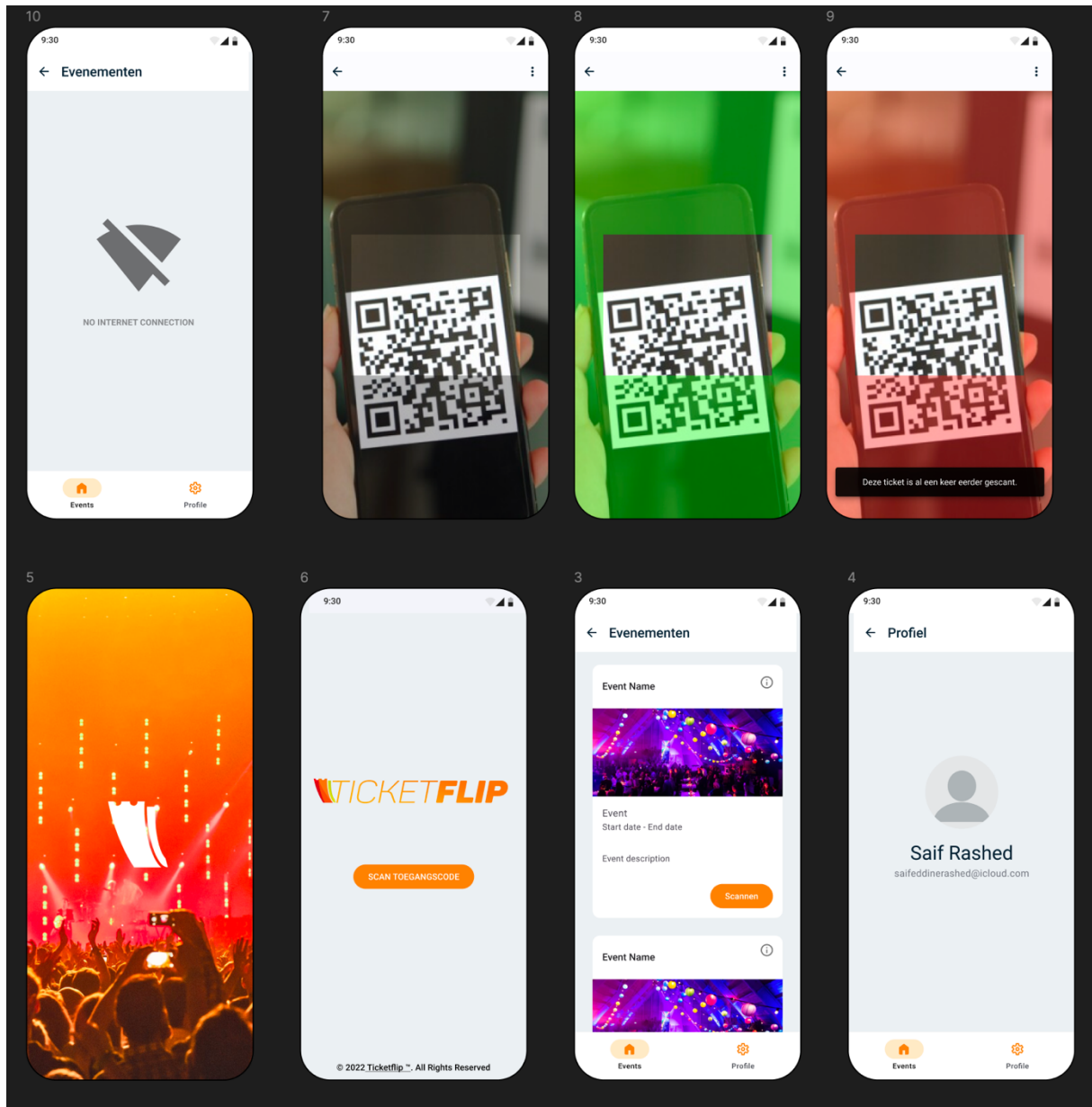


FIGURE 4: FIGMA DESIGN OF THE APP