SwipeRight

Design

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RB03

Version 1

Preface

The complete design phase of the project SwipeRight can be found in this document. This file will evolve over time and can always be expanded upon.

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1. Techstack

The technologies which will be used for the SwipeRight techstack are defined below.

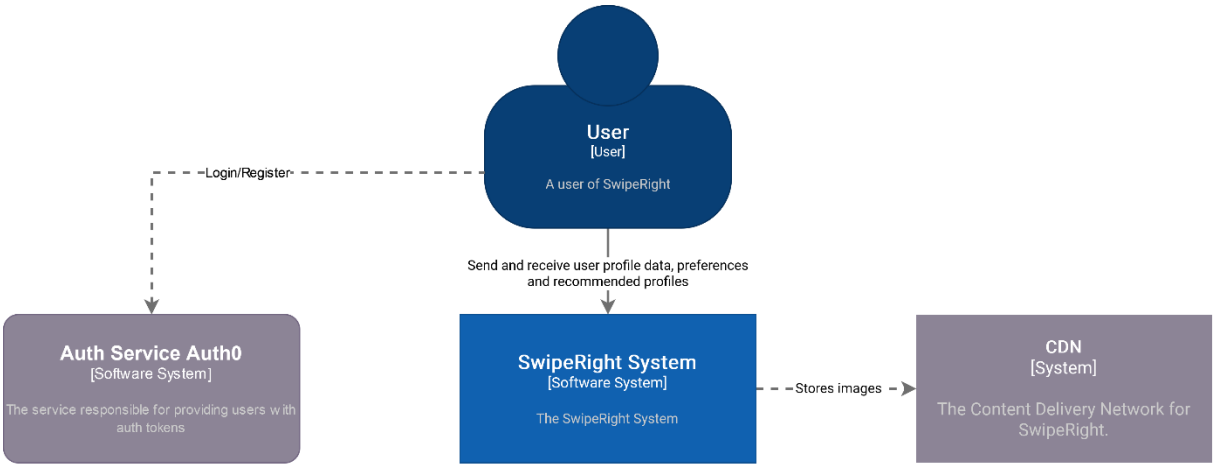
Feature	Description	Motivation
Security	OAuth 2.0	Secure and widely used (industry standard)
Server script	Go	Performant, Scalability & Nice syntax
Server Framework	Gin	Gin is a performant and widely used backend framework for Go.
Client Technology	Flutter	Flutter is a performant cross-platform technology, It's used a lot for native development.
Client script	Dart	Dart is the language used in Flutter
Database 1	Apache Cassandra	Performant, Secure & highly scalable
Database 2	Redis	Flexible data structures, performant & simplicity
Server OS	Ubuntu	Backend programs should eventually be able to run in every environment
Client OS	Android	In the development phase my target OS is android because it is open, it might be extended to IOS in a later stage of production.

Container	Docker	Sensible default
Orchestration	Kubernetes	Sensible default
Gateway	Kong	Highly customizable ingress/gateway etc.
Monitoring	Grafana & Prometheus	Sensible default
Auth	Auth0	Nice free tier and widely used

2. C4 Models

2.1 System Context

The idea is to work with a microservice architecture which is almost completely dependent on internal services. A system like a content delivery network should however be outsourced to an external system though. Vendors like amazon have servers everywhere in the world which helps a great deal with performance. This is a resource I unfortunately do not have access to.



System Context Diagram SwipeRight

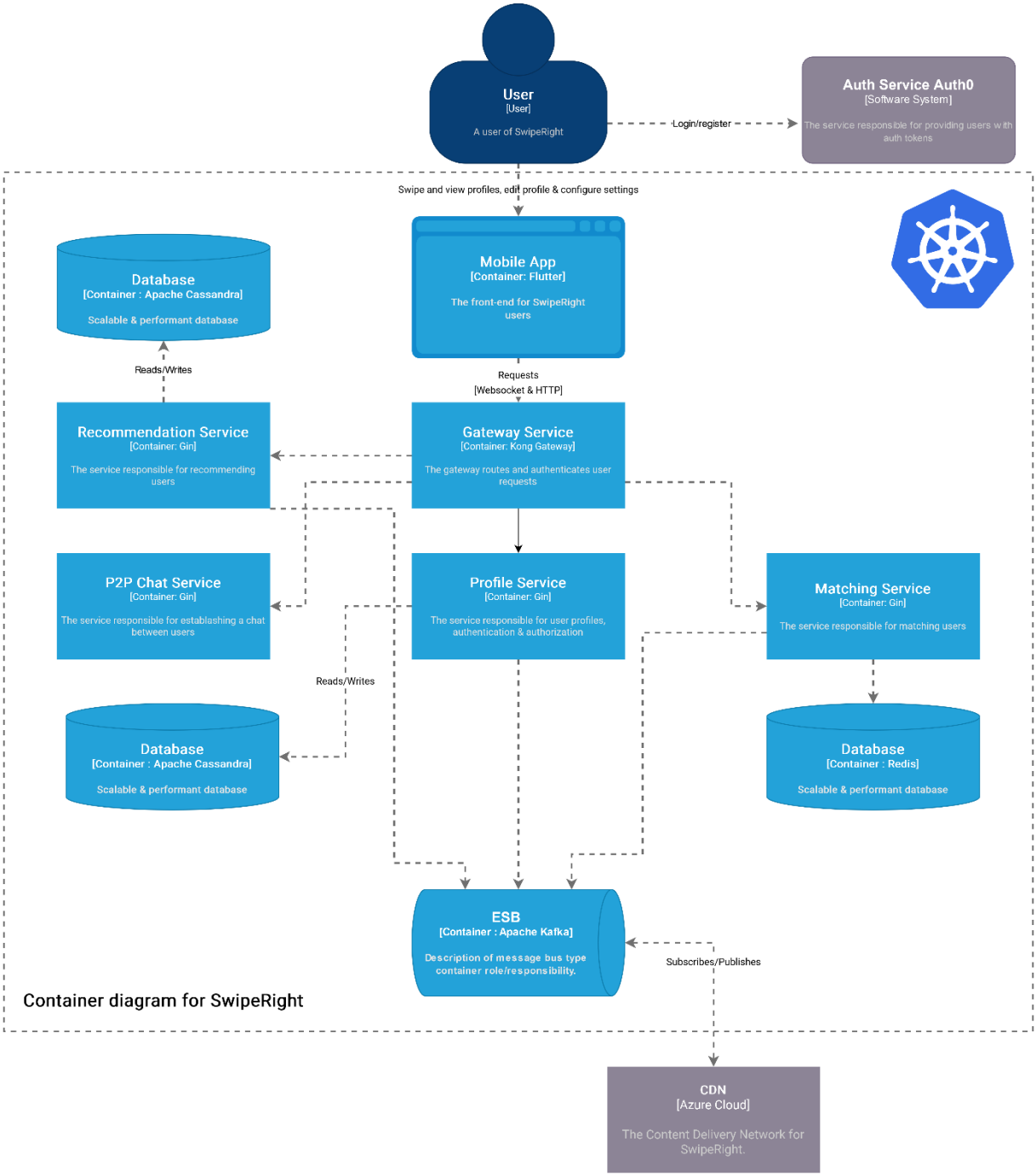
2.2 Container diagram

The container diagram contains a gateway which connects the clients to the service bus. The service bus makes asynchronous communication between all services possible.

The complete stack will run in a Kubernetes cluster and will therefore be easily scalable and has the potential for high availability.

All services will run in docker containers so I don't have to worry about OS compatibility.

Authentication will be handled by the gateway and the services will authorize requests. The access tokens will be provided by Auth0.



In order to generate URL's for images I want to use Azure functions in combination with Azure blob storage. The azure function will trigger when a message is send to Kafka with a request to generate a URL. This process will happen entirely asynchronous.

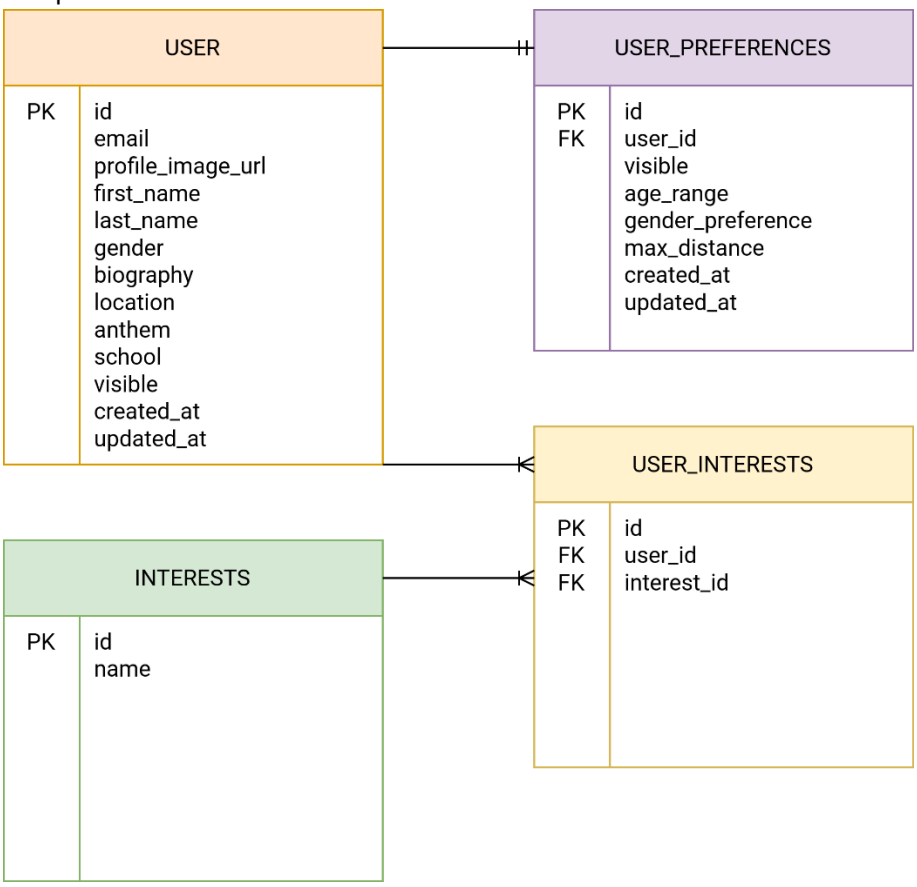
Every custom build service will contain a metrics endpoint which can be scraped by Prometheus. These metrics can be visualized in a Grafana dashboard.

3. Entity Relationship Diagrams

The entities are defined per microservice.

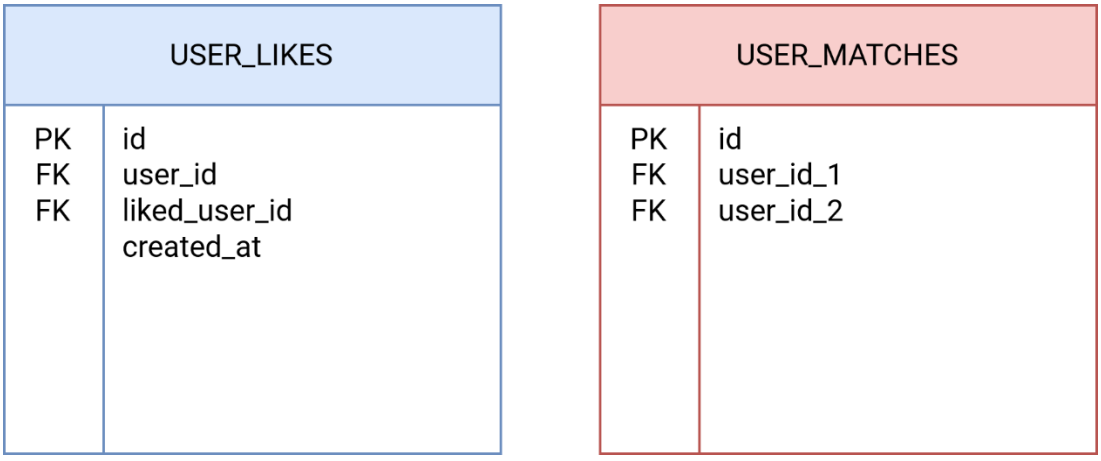
3.1 Profile Service

The profile service will store all user related data.



3.2 Matching Service

The matching service has the responsibility to keep track of the liked users and needs to update the USER_MATCHES when two users have liked each other.



3.3 Recommendation Service

The recommendation service is in charge of making sure users get other users recommended to them according to preferences.

RECOMMENDATION_PROFILE	
PK	user_id location anthem visible age_range gender_preference max_distance

SWIPED	
PK	id user_id other_user_id

4. User Interface

In this chapter the designs and standards are defined.

4.1 Design System

4.1.1 Typography

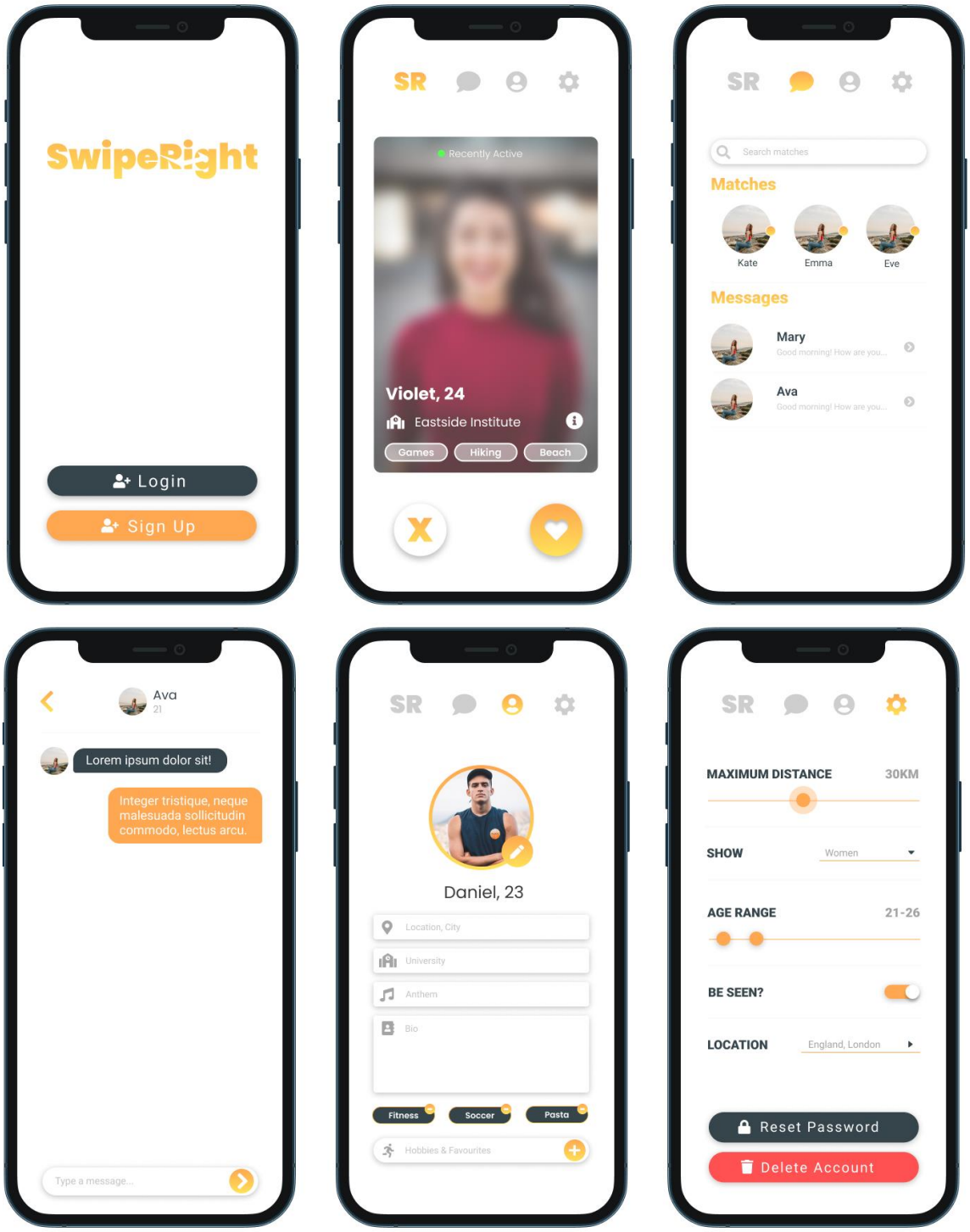
Name	Font
Logo Font	Poppins
App Font	Roboto

Name	Font Size (px)
XS	12
S	14
M	18
L	20
XL	24

4.1.2 Colors

Name	Color
Logo Gradient Top	#FFA751
Logo Gradient Bottom	#FFE259
App White	#FFFFFF
App Dark	#373737
App Grey	#CECECE
App Green	#54FF51
App Red	#FF5151

4.2 Mockups



*** Mockups are created with Figma*

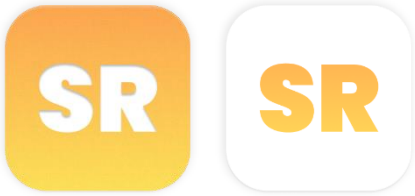
**** Pictures used are from Unsplash*

4.3 Assets

4.3.1 Logo

SwipeRight

4.3.2 App Icons



4.3.3 Like & Dislike Buttons

4.3.4 Default Buttons