PRIVATE LIVE-TICKER APPLICATION

PROPOSAL

MOTIVATION

Many people are using live-scores to get updated about games of their favorite sport teams especially when they are not able to attend every single game because of time or location matters. For that there are already many live-ticker applications available. Even if they are already covering a lot of different types of sports there are still games missing especially in the lower leagues.

Some people, who are interested in a special game which is happening in a lower league, are currently creating some private chat groups where one of them is using it for updating the score of a game which he is currently watching. This needs obviously a lot of effort, especially if it's a sport where many events happening in short time (f.e. volleyball, badminton, handball, basketball, …).

The motivation of that project is to make it easier for people who are interested in the same game (which is not public), to share the score and special events in an easier way and to reduce the effort for the person who is updating the scores.

CONTENT

BASIC STRUCTURE

The application should be implemented for Android and iOS devices.

- One user authenticates and is able to create a game with specific parameters (like name of the teams, date, time, sports type)
- The creator of the game has full rights to update the scores and special events of that specific game whenever he wants
- The data will be stored in and accessed from an cloud service provider (f.e. firebase[1])
- Other users can connect to it and watch the games including all happening events

EXTENDED STRUCTURE

- The creator of a game can choose between already predefined game types according to the chosen sports type
- The creator of a game can decide if the game is public or private (only accessed by a key)
- Viewers of a game can communicate to each other in that app (similar to a chat room)

POSSIBLE ADDONS

- User gets push notifications when something new is happening in their selected games
- Provide a function to extract/share the data in a useful format, that the scoreboard of a game can be replaced through that application. (f.e to support the event manager of a tournament through getting the result of a game in digital format, subject to the condition that the referee is also using the application)

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[1] https://www.firebase.com

REQUIREMENTS

- Gathering experience in Android application development
- Gathering experience in SWIFT application development
- Gathering experience in firebase for storing the data
- For SWIFT development:
    - Mac-Book renting

POSSIBLE UI-DESIGN[2]

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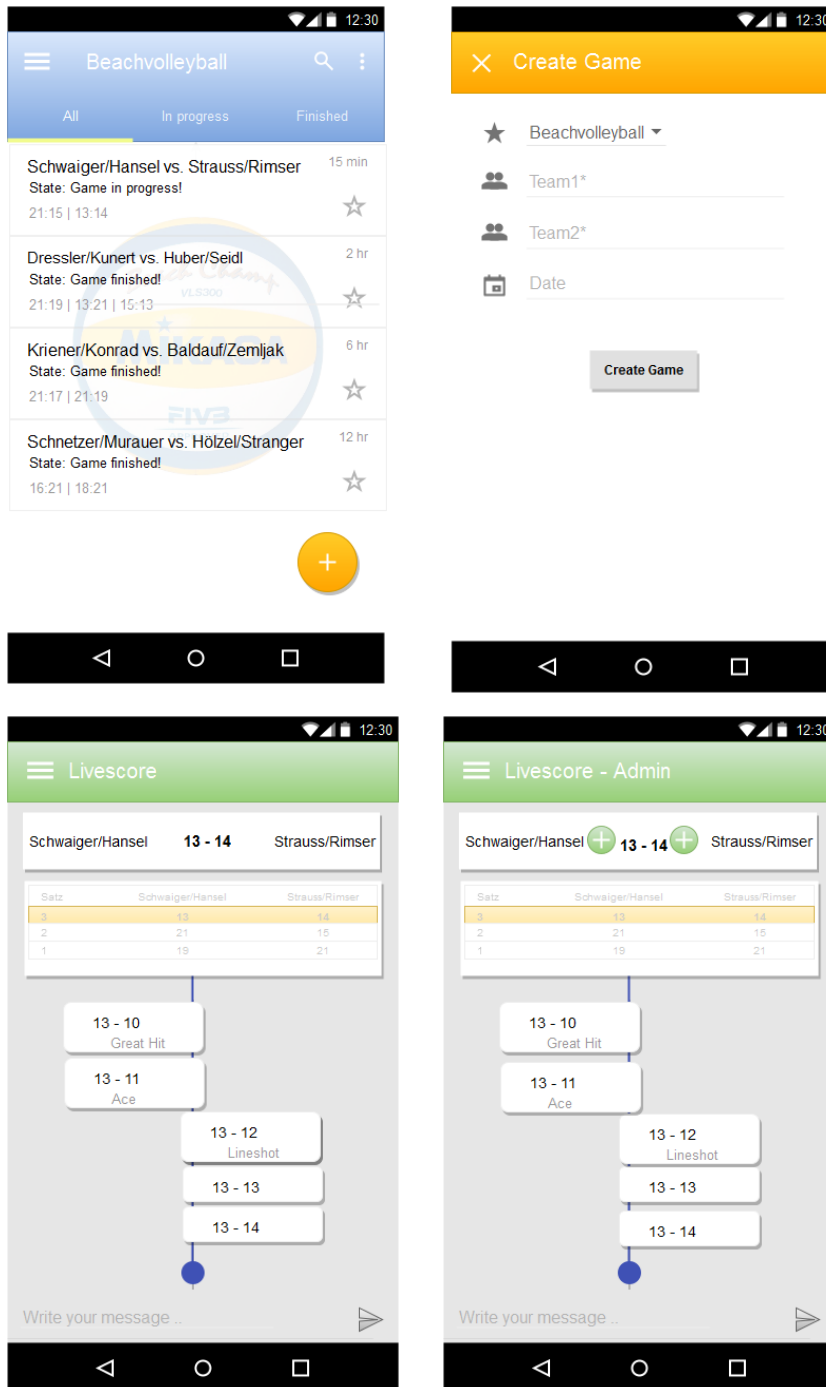
[2] Graphics designed with an online diagram software (https://www.draw.io)

RESULTS

Since I developed for two different operating systems (first for Android and then for IOs) I had some adaption problems because some design patterns are solved different (e.g there is no navigation drawer in IOs, tab bars are on the top in Android and on the bottom in IOs, ..).

Due to using a shared online database (Firebase[3]) I saved a lot of double work and it is possible to share data and communicate between both apps. However, the appearance is slightly different but the data is the same.

I implemented the following features:

- Authentication via username & password or
- Authentication via Google Sign-In (only Android)
- User can create games and choose between three different sport types
- Other users can watch every public game
- All users can communicate through an integrated chat
- Creator of the game can select game events which are instantly shared to all users
- Creator of the game can delete or edit his games

DATABASE

The database is easily exportable since it is stored in json format. The following picture shows the structure of the database.

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[3] https://www.firebase.com

Every game has the following properties: sportType, name of both teams, timestamp, started and finished flags, object of game sets and a link to the user who created the game. Furthermore the user can decide between creating a public or private game. The user itself is described through its unique userId, email-address and an optional link to a profile picture. The last object are game events as you can see in the following picture it is defined as a link to the game and its attributes. Currently there are 3 different game event types defined: INFO; SCORE and CHAT which will appear different in the game details view.

```
games_events
    -KGgPnZ0MAUeaw4oB08G  + ✗
        -KGgPrXbyzxd7BdD2lol
            info: ""
            message: "Game is started!"
            timestampSent
            type: "INFO"
            userId: "google:114158685393108300635"
        -KGgPru2GzkHfQNd1rGJ
            info: ""
            message: "1:0"
            timestampSent
            type: "SCORE"
            userId: "google:114158685393108300635"
```

ANDROID

This section is showing the screens which are implemented for android devices.

LOGIN

This is the scene which will appear when the user starts the application. These pictures are showing the Login screens, you can decide between signing in via google or by signing up with email address and password.
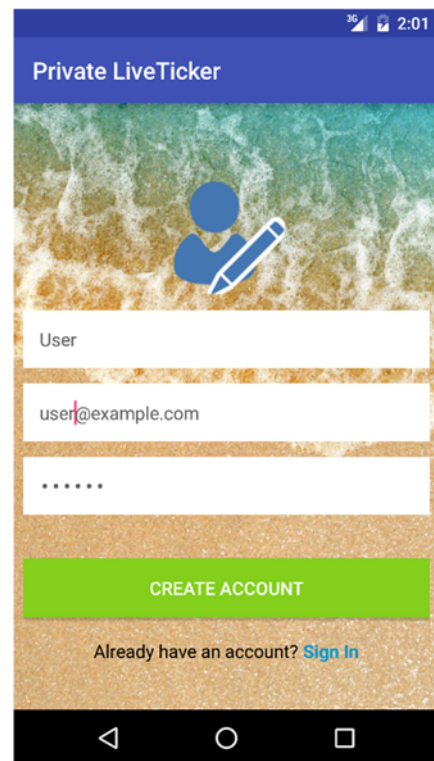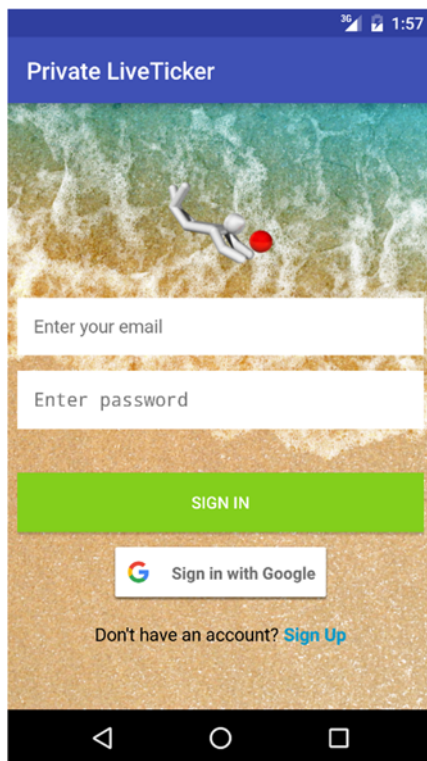
MAIN SCENE & CREATE GAME

After logging in, the user gets forwarded to the main scene. This scene is divided in 3 tabs. Each tab is showing a list view with all available games based on the state of each game. The user can decide between creating a new game through selecting the floating action button on the lower right corner or watching an existing game.
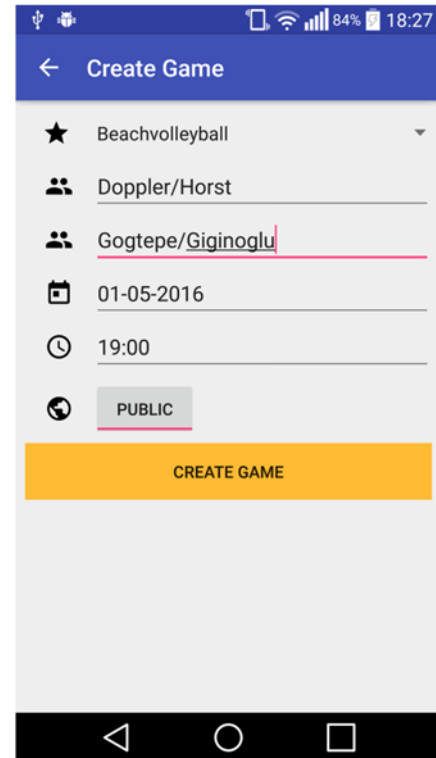
In the right picture you can see the fields what the user needs to fill in to create a game. The button with the title "PUBLIC" is a toggle button which will change to "PRIVATE" if selected. The private mode can be used for testing purpose since the created games will not be shown to other users.

GAME DETAIL SCENE

After selecting a game in the list the user gets forwarded to the detail view. This view is appearing different depending on the owner state of the selected game.
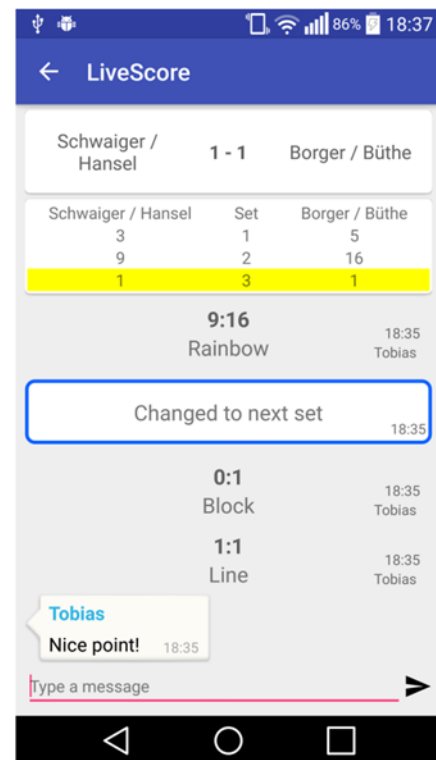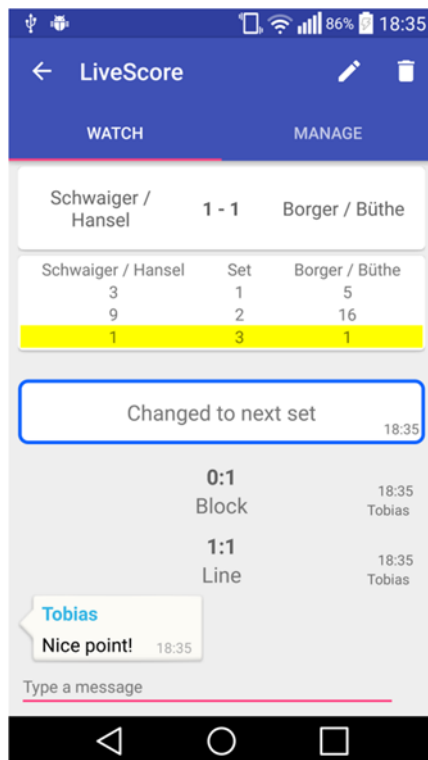

You may see some differences on the left picture compared to the right one. On the right picture the user is only "watcher". That means he is allowed to watch the game and use the chat. On the left picture the user is the "owner" of the game. This means he is allowed to edit, delete and manage the game. These functions are triggered through the tab bar and the icons on the upper right corner.

GAME MANGE SCENE

On the left picture, you can see the mange scene for the "owner" of the game. The user can update the score, change the sets and add some information to the point change through selecting on of the predefined actions or writing a custom "event" message.
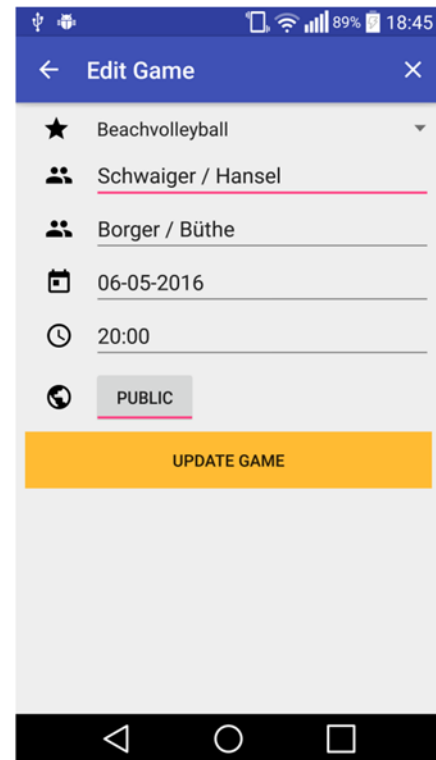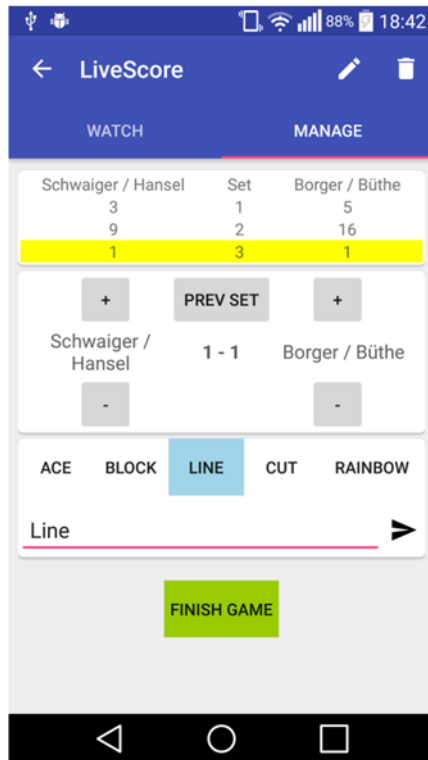

The right picture shows the scene when the user selected the edit button. The lower picture shows the dialog when the user wants to delete the game.
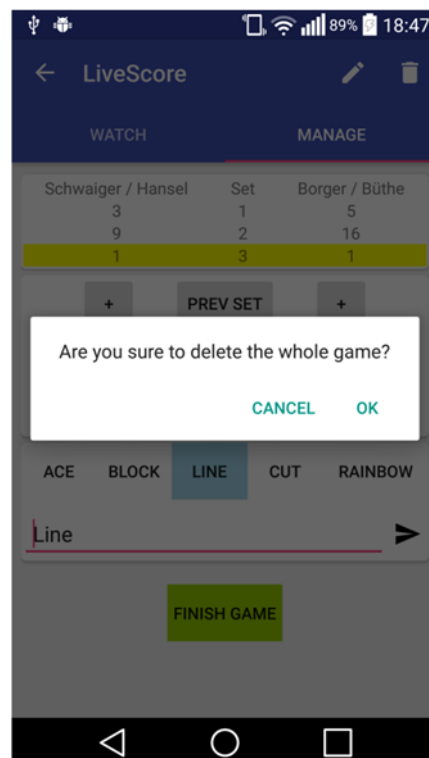
NAVIGATION DRAWER

I also implemented a navigation drawer for providing some more navigation items. He can view his account data. Furthermore he can change to the private games view which has exactly the same scenes as in the public games except that the games are not shared with other users. In the setting scene the user can change some properties like his displaying name.
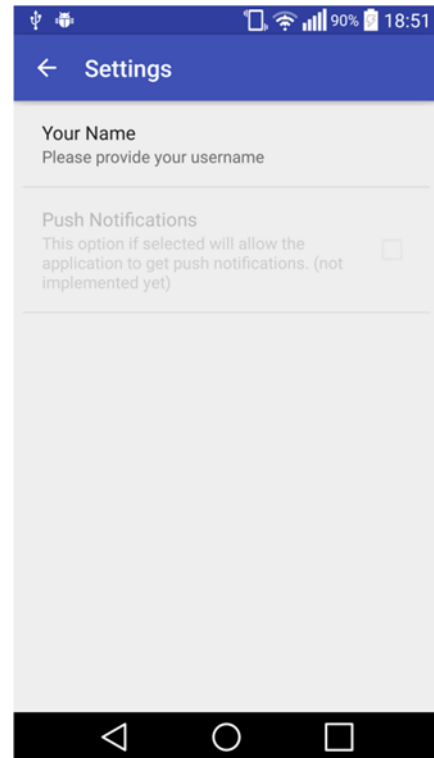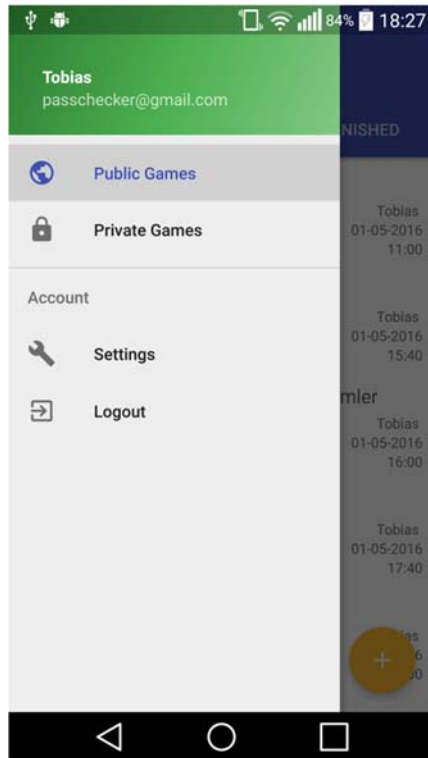
FURTHER FEATURES

The application is not published yet on the google play store, but it is planned in the near future. Until that the design needs to be improved since I mainly used the standard buttons without any adaption. Further features are planned to develop like implementing push notifications when a new game event is happening. Another extension would be to support more sport types with different rules and to support login by facebook.