Project Requirements Document
Project name: PickApp
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0. Document versions
v.1.0. Initial version of Project Requirements Document (09.11.2020)

1. Project components (project products)
Programming elements of the project:
- Mobile application for Android 9+ and iOS 12+
- Backend application in Elixir deployed in Linux environment
- PostgreSQL database server instance
- CI/CD Pipeline

Non-programming elements of the project:
- Graphic prototype of mobile application made with Figma
- Usability tests reports
- Showcase video (maybe not then?), onboarding tutorial
- Project board on Jira
- Project documentation - Swagger documentation for API endpoints, HexDocs documentation for business logic modules

2. Project boundaries
Included products and functionalities:
- Described in "List of functional and non-functional requirements"

Excluded products:
- Web application

Excluded functionalities:
- Direct communication between users (only using groups)
- Mapping routes to events or sports facilities
- Integration with smartwatches
- Advanced metrics and progress tracking

- Tournaments and leagues organisation
- Sport facilities

3. List of functional requirements

Detailed functional requirements are below in form of user stories.

1. **As an User,**
   1.1. I want to be able to log into the application using Facebook.
   1.2. I want to be able to set up my profile.
   1.3. I want the application to remember my session.
2. **As an Event Organiser,**
   2.1. I want to be able to create an event.
   2.2. I want to be able to edit event details.
   2.3. I want to set the event to recurring.
   2.4. I want to be notified about events I organise.
   2.5. I want to be able to accept/reject pending participants.
   2.6. I want to be able to change the settings of my event.
3. **As an Event Participant,**
   3.1. I want to be able to join an event.
   3.2. I want to view event details.
   3.3. I want to see a list of event participants.
   3.4. I want to be able to browse sports events on the map.
   3.5. I want to be able to filter sports events.
   3.6. I want to see events I joined and took part in.
   3.7. I want to be notified about events I joined.
   3.8. I want to invite my friend to the event.
   3.9. I want to see events clustered by their locations.
   3.10. I want to be able to add a new event location.
   3.11. I want to be able to see event locations.
4. **As a Group Creator,**
   4.1. I want to be able to create groups.
   4.2. I want to be able to give other users moderator privileges in my group.
   4.3. I want to be able to delete created group.
   4.4. I want to be able to set up a group scoreboard.
   4.5. I want to add users to the group.
   4.6. I want to remove users from the group.
   4.7. I want to be able to moderate content in the group.

5.   As a Group Member,
    5.1.   I want to be able to see content posted in the group.
    5.2.   I want to see a list of group users.
    5.3.   I want to be able to post content in the group.
    5.4.   I want to communicate with other group members.

6.   As a Tournament Organiser,
    6.1.   I want to be able to create a tournament.
    6.2.   I want to add participants to my tournament.
    6.3.   I want to include a schedule of my tournament.
    6.4.   I want to make announcements for tournament participants
    6.5.   I want to be able to manage the tournament's bracket.
    6.6.   I want to specify requirements for my tournament.
    6.7.   I want to set up an entry fee.

7.   As a Tournament Participant,
    7.1.   I want to be able to see tournaments in my area.
    7.2.   I want to see information about the tournament.
    7.3.   I want to register my team in the tournament.
    7.4.   I want to join a team in the tournament.
    7.5.   I want to be able to view a tournament bracket.
    7.6.   I want to get notified about tournaments I joined.

8.   As a Sport Facility Owner,
    8.1.   I want to add my facility to the system.
    8.2.   I want to specify information about my facility.
    8.3.   I want to specify my facility's availability in a calendar.
    8.4.   I want to schedule a rental of my facility.
    8.5.   I want to collect a payment for renting my facility.

9.   As a Sport Facility Renter,
    9.1.   I want to see a list of available sport facilities.
    9.2.   I want to see information about the chosen facility.
    9.3.   I want to be able to determine availability of the chosen facility.
    9.4.   I want to be able to chat with a Sport facility owner.
    9.5.   I want to schedule a rental of a facility.
    9.6.   I want to be able to pay for rental of a facility.

4. List of non-functional requirements

- Mobile application:
  - material design interface
  - required Android 9.0 or iOS 12+
  - multi-platform (Android, iOS)
  - integrated with back-end server
  - technologies:
    - Flutter
- Publication of mobile application:
  - account in Google Play and App Store
  - publication in Google Play
  - publication in App Store
- Server application:
  - uses PostgreSQL relational database to store data
  - API Swagger documentation
  - technologies:
    - Elixir
    - Phoenix
    - Ecto
- Relational database:
  - allows storing data about users and events
  - technologies:
    - PostgreSQL
- Prototype of mobile application:
  - prototype of the mobile application, which was created in the initial phase of the project, presenting initial design and application flow
  - technologies:
    - Figma
- GitLab code repository
- Jira project board

5. Measurable implementation indicators

- The system will be published to Google Play and downloaded by 20 users.
- The system will be tested by the development team and minimum 4 other users.
- The system will endure load tests to ensure that if no more than 100 users use the system at the same time, the maximum response time of the server will not exceed 2 seconds.
- By the end of the second semester, the target group will receive a beta trial.

6. Project acceptance criteria for the first semester

not applicable

7. Project acceptance criteria for the second semester of work

Required:
- All user stories related to events
- Event locations listed in the system (integration with an external service) (???)
- Server application deployment to AWS Cloud service
- No critical errors that make the application unusable (???)

Expected:
- Completed user tests (6+ users)
- All user stories related to groups excluding scoreboard
- Application published in Google Play

Planned:
- Application published in AppStore
- Tournaments functionality
- Group scoreboards
- Sport facility functionality
- Integration with OneSignal for push notifications

8. Organization of team work

Developers team:
- Szymon Kuleczka
    - System architecture design
    - Backend application implementation
    - Database creation
    - CI implementation for backend
    - Mobile application implementation
- Hubert Salwin
    - Backend application implementation
    - Mobile application implementation
    - CI implementation for Flutter
- Łukasz Jędyk
    - Mobile system architecture design
    - Mobile application implementation
    - Documentation
- Kamil Beker
    - Mobile application implementation
    - Backend application implementation

- ○ Mobile UI design
- ○ Cloud infrastructure

Work methodology:

PickApp development team adopted an agile work methodology. We did not want to use any of the widely used workflows, such as Scrum or Kanban, as we felt like they are not suited for our needs. To achieve maximal flexibility, we decided to take the best elements of both Scrum and Kanban and slightly adjust them for our purposes.

Just like in Kanban framework, none of us has any role assigned. Every team member has his own strong sides, weak sides and specialties, which influences the tasks distribution, but we all do what is necessary at the moment to achieve our business goals.

The thing that we adopted from Scrum workflow is working incrementally in sprints. It has helped us a lot to stay motivated and to deliver business value as soon as possible. Also, thanks to it, we often feel satisfied after successful execution of our plans.

What is also worth mentioning regarding our work methodology is the high focus on code review. We have an agreement that we cannot merge new code into the master branch without at least one approvement of another team member. It helped us significantly to improve our code quality.

Tools:

We use GitLab as our code repository and Jira for task management.

GitLab offers built-in CI functionality, which we use for code quality checks and tests execution. Also, we plan to implement CD using AWS GitLab integration (requires clarification probably).

Task lifecycle diagram:

Needs to be completed

9. Project risks

- Unfamiliarity with mobile technologies - developers are learning along creation
- Lack of experience in publishing mobile applications
- Working remotely due to pandemic state may cause less work efficiency and harder communication with client
- Coronavirus pandemic caused one of our main competitors listed in our business analysis, Endomondo, to shut down their services. Although a lot of people still do sports in their leisure time, we expect that interest in doing it in the group of strangers might drop significantly.
- Lack of an exact, real client, we will select specific users acting as a target group

- We do not work as quickly as we expected in the beginning of project implementation, which resulted in cutting off some functionalities for the first version of the project and the stress caused by tight project deadlines
- Google services used in the project might be too expensive for the engineering project. We might have to use other equivalent services, which would increase the team's workload by around 80 man-hours.

10. Milestones
- 1st phase, summer semester (April 2020 - June 2020):
  - Vision Document
  - Prototype of mobile application
  - Start of programming work
  - Scope document
  - Providing 2 releases of the application
  - Presentation of usable application (with key functionality)
- 2nd phase, winter semester (October 2020 - February 2021) (chyba ok?)
  - Providing 2 releases of the application
  - Users testing the application
  - Publishing application in Google Play
  - Presentation of final application