Group 6 Milestone 2 Report

1. Executive Summary

As time flows rapidly and final delivery of the project approaches, Cultidate Developer Team is taking solid steps and cramming into adding new features day by day and fixing minor bugs (we don't have major ones thanks to our strong architecture) at the same time.

Backend: We believe that our backend team is an obvious example of how Django & Django REST Framework can be utilized for the needs of such projects and how elegant backend codes and structures can be. For this milestone, backend team comes with improved models, a well-integrated static file storage, detailed documentation of all endpoints with various examples, email activation with 7-day longing industry level generated tokens, improved user and authentication processes, admin panel for content managers, and various fixes and minor improvements. For the next step, we will be seeing implementations of personal messaging, recommendation and search features.

Frontend: One lacking feature was weak frontend with lots of missing features at the Milestone#1. One can easily state by looking at what has been done on the repository that the frontend team did make an overhaul. First, they switched from React JS to Vue JS which is a sane and somehow necessary step as Vue JS meets better with our Project Requirements. Second, they analyzed the requirements, user scenarios, and API documentation very well which allowed them to reflect on the screen. Third, our frontend team has good interaction among themselves making them more productive. Fourth, their interaction with the backend team such as reporting minor bugs and requesting small changes was made the system more elegant.

Android: Not everything goes well though. Cultidate Team has some struggles in Android development. The main challenge here is communication problems with some (not all) members of the team and lack

of motivation. However, we believe that our team is arguing possible solutions by focusing on the problems and will show a team spirit to deliver this part of the project.

2. List and Status of Deliverables

2.1. Android

Deliverables	Status
New Login Features	In Progress
New Sign Up Features	In Progress
Profile Settings	X
Event Related Works	X

2.2. Backend

Deliverables	Status
Email Activation & Verification	ОК
Admin Panel for web application	ОК
Improved authentication process	ОК
Improved model design	ОК
Static file storage	ОК
API documentation with use cases	ОК
Search	Partially completed

2.3. Frontend

Deliverables	Status
Login implemented again from scratch	OK
Signup implemented again from scratch	OK
Homepage implemented again from scratch	OK
Multi-language support for main parts of website	OK
Recommended event page implemented again from scratch	OK
Event page	ОК
Following, attendance and vote system	OK
Comments for events	ОК
Google Maps for event's location	Not connected to API shows static place
Create Event	ОК
Delete Event	ОК
Edit Event	ОК
Create media	ОК
User profile page	ОК
Edit user profile page	ОК
Email verification during sign up	ОК

1 0	Needs work from backend and frontend
Change Password	ОК

3. Evaluation of the status of deliverables and its impact on plan

3.1. Android

As tabulating in section 2.1; for Milestone #2, "email verification feature" are added in Sign Up function by Backend Team. I added it in the design and intents but had problems on binding. So, those are still in progress. During Milestone #1, we focused only on functionality, but for Milestone #2, we have decided to develop a general UI.

Since there are communication and coordination problems in team, there are several points not finished yet. We will surely shift them to aims of Final Milestone. That is to say, project plan shifts below. Yet, this will be a big problem because there are a lot of missing points. However, we hope, will try to do my best.

3.2. Backend

As tabulating in section 2.2; User Related and Event Related Models' endpoints were done according to requirements at Milestone 1. Some bugs that are caused from previous milestone are fixed and new features are added. Email verification system is implemented successfully. Basic keyword search function is working properly and semantic search system is designed. Static file system is implemented and connected to

AWS S3 successfully. Our API documentation with different examples for each endpoint can be accessed from here.

(https://documenter.getpostman.com/view/1789011/RzZ6L1xw).

3.3. Frontend

As tabulating the section 2.3., Login, Signup, Landing page, Homepage, Profile, Edit profile, Event, Recommended Event pages were done according to the Requirements. When considering the progress in the project plan of frontend, all missions except sharing events for milestone #2 were completed. For this reason, a few features must be implemented for the last milestone such as search and notification.

3.4. Annotation

A purposeful research was made in order to help implementing annotation related features. Annotator.js and to-web-annotation libraries will be used as helper libraries. Annotation within Android environment will be decided later.

A presentation covering annotation research can be found on the following link:

https://docs.google.com/presentation/d/12xlF1lGjhoSLvhx2UnlViDqNo_Le KpwyVnkODPoVKYk/edit?usp=sharing

4.Work

Group Member	Team	Contribution
Ömer Kırbıyık	Front-end Homepage design, page, media uploatevent, edit event, la page design, login design, google maintegration, router connections, recommended eventher general arrangements with website	
Abdurrahman Dilmaç	Back-end	Improved user and authentication process, fixed various bugs and added new minor features. Implemented email system to be used for user activation after signup, forgot password feature and future email based subscriptions. Implemented Admin Panel for content managers and the frontend & android teams allowing to display and edit a simple yet powerful interface.
Mert Aközcan	Back-end	Improved implementations of event related models Made tags applicable to both users and events Created AWS S3 bucket for static file storage Added photo fields to users and events, implemented a mechanism to store photos

		in AWS S3 bucket
Zeynep Işık	Android	Worked on implementing new features on login and signup
Mustafa Alparslan	Android	X (must have done event related works)
Atıf Emre Yüksel	Front-end	Implemented signup page. Implemented rate, comment, attendance, follow, and delete event in show event page. Designed the show event page. Implemented and designed profile page. Implemented and designed edit profile page including changing password, and the user's information.
Anıl Seyrek	Android	Tab layout implemented for profile page. (API bindings will be done later) Annotation related research was done.
Erkam Ağralı	Front-end	
Fatih Maytalman	Back-end	Implemented basic search function, new structure created for semantic search and tags system

5. Requirements

Glossary

Admin: A person who is responsible for the sustainability of the system.

Annotation: Explanatory content attached to an event compatible with W3C standards.

Comment: The response of users about activities of the other users or their profile, which can be voted by the others.

Community: A group of people sharing the same or similar interests and having communication or/and collaboration among themselves.

Database: An organized collection of data to store users' data safely.

Event: A cultural meeting that has a certain place and a specific time interval fields such as theater, cinema demonstration, opera, concert, book discussion, etc.

Event history: History of events which the user attends in the past, which is shown in his/her profile.

Follow: Users can follow the events attended by the specific user and his/her profile by this feature.

Google Maps API: Data gives you exact real-time information for locations, mapping, and navigation.

Guest: A person who is not registered and not having user privileges but viewing public pages.

Item: An article, an image or basically anything a user shares on the platform.

Password: Minimum 8 maximum 20 characters of a secret sequence used to identify a user and grant the user with member user abilities.

Profile: Profile: A number of specific information about a user containing his/her interests and events s/he attends.

Recommendation: Suggesting an event liked by a user to other users or recommending users to follow.

Sign-up: When a new user registers by giving intended personal information by the system.

System: The whole environment of the Cultidate Project including Web, Mobile, server-side, databases, cold storages.

Tag: A descriptive word or phrase to define an item defined and can be searched better.

User: A person who has an account on the community.

Username: User specific unique characters to identify a user.

Vote: The rating system allowing users to vote and comment the other users or events positively or negatively.

1. Functional Requirements

1.1. User Requirements

1.1.1 Member User Requirements

• 1.1.1.1 Sign-Up

- 1.1.1.1.1 Users shall sign up by following one of the following procedures.
 - 1.1.1.1.1 Users shall provide a name, surname, username, password, e-mail address.
 - 1.1.1.1.1.1 Users shall verify their e-mail addresses by following the steps in the confirmation mail sent by the system.
 - 1.1.1.1.1.2 User emails and usernames shall be unique.
 - 1.1.1.1.1.3 Passwords shall be no shorter than 8 characters and no longer than 20 characters.
 - 1.1.1.1.1.2 Users shall sign up using their Facebook accounts.

• 1.1.1.2 Login

- 1.1.1.2.1 Users shall login using their username and password.
- 1.1.1.2.2 Users shall login using their Facebook account.

○ 1.1.1.2.3 Resetting Password

- 1.1.1.2.3.1 In case of a user forget the account password, a password reset link is to be sent to the user's email address.
- 1.1.1.2.3.2 A user who gets a reset link should be able to reset the password by going the unique link provided in the email.

• 1.1.1.3 Profile

- 1.1.1.3.1 Users shall have a profile which includes but is not limited to their information bio, interests.
- 1.1.1.3.2 Users shall be able to edit their profiles.

1.1.1.3.3 Profile Visibility

 1.1.1.3.3.1 Users should be able to configure their profile visibility options.

• 1.1.1.4 Contribution

- 1.1.1.4.1 Users shall be able to create events.
- 1.1.1.4.2 Users shall be able to follow events.
- 1.1.1.4.3 Users shall be able to share events.
- o 1.1.1.4.4 Users shall be able to add photos to the events they created.
- 1.1.1.4.5 Users shall be able to edit performing artist, location, date, price information of the events they created.
- 1.1.1.4.6 Users shall be able to comment on events and other users' profile.
- 1.1.1.4.7 Users shall be able to mark their attendance status to the events by choosing attend, will attend, maybe, won't attend, or block options.

• 1.1.1.5 Messaging

 1.1.1.5.1 Users shall be able to send private messages to other users unless at least one of the messaging parties is blocked by the other.

• 1.1.1.6 Tagging

 1.1.1.6.1 Users shall be able to tag their items such as creating a tag or using an existing one.

• 1.1.1.7 Searching

- 1.1.1.7.1 Users should be able to search users and events semantically by means of the following services.
 - 1.1.1.7.1.1 They shall be able to make location-based filtering.
 - 1.1.1.7.1.2 They shall be able to make tags filtering.
 - 1.1.1.7.1.3 They shall be able to find events by searching with relevant keywords.

• 1.1.1.8 Notifications

- 1.1.1.8.1 Users should be able to get notification of friends requests when other users send a request.
- 1.1.1.8.2 Users should be able to get notification of private message sent by other users, which can be seen in their message page.

• 1.1.1.9 Blocking

- 1.1.1.9.1 Users should be able to block certain users.
- 1.1.1.9.2 A blocked user by another user shall not be able to see each other's profile and items.

1.1.2 Guest User Requirements

- 1.1.2.1 Guest users shall be able to only view events and actions taken by members whose profile visibility is set to be open to the public.
- 1.1.2.2 Guest users shall not be able to take any other action.

1.2. System Requirements

• 1.2.1 Content

- 1.2.1.1 Users shall have the freedom to create an item and an event.
- 1.2.1.2 Users shall be able to delete their items and events.
- 1.2.1.3 Users shall be able to edit their items and events.
- 1.2.1.4 The system shall provide enough information about an artist, event date, and event price.

1.2.2 Recommendations

 1.2.2.1 Users shall be able to get recommendations for events based on their event histories.

1.2.3 Interface

o 1.2.3.1 Project interface language shall be English.

1.2.4 Annotations

- 1.2.4.1 Users shall be able to annotate the event information and multimedia that may have been added to an event page with explanations, questions, and answers.
- 1.2.4.2 System shall allow annotation including geographical references by using Google Map API.
- o 1.2.4.3 System shall allow text formatted annotation.
- o 1.2.4.4 System shall allow image formatted annotation.
- 1.2.4.5 System shall allow links which may be semantic resources to provide more detailed information about the event.

1.2.5 Search

- 1.2.5.1 The system shall be able to perform semantic searches as specified by the users.
- o 1.2.5.2 The application should allow a semantic search to be made.
- 1.2.5.3 The system should be able to use a given location when a user searches events in the platform.

• 1.2.6 Database

- 1.2.6.1 The system shall store data in the database.
- 1.2.6.2 The system shall update data in the database.
- 1.2.6.3 The system should make integrity check once in two weeks to prevent data loss.

1.2.7 Voting

- 1.2.7.1 System shall be able to store voting data coming from users.
- 1.2.7.2 System shall be able to retrieve voting data coming from users.

2. Non-Functional Requirements

2.1 Security and Reliability

- 2.1.1 Data of users shall be protected and used according to <u>LAW ON THE</u> <u>PROTECTION OF PERSONAL DATA (Kişisel Verilerin Korunması Kanunu)</u>
- 2.1.2 Users' email addresses shall not be reachable by other users or the public.
- 2.1.3 Users' passwords shall be stored with encryption in the database.
- 2.1.4 Users shall get notification emails when they change their password.
- 2.1.5 Captcha method shall be enabled while registering to prevent malicious bots.
- 2.1.6 Weekly periodic backups shall be taken to ensure data is safe and sound.
- 2.1.7 In case of server failure and in the need, the system shall be restored with the latest backup.

2.2 Performance

- 2.2.1 The system should be able to respond to requests within 4 seconds.
- 2.2.2 100 requests per seconds should be responded.
- 2.2.3 The system shall be able to serve at least 20000 members.

2.3 Availability

- 2.3.1 Project shall be available on both Android and Web platform.
- 2.3.2 Compatibility with Google Chrome, Opera(<u>Chromium based browsers</u>),
 Firefox, Safari and Edge should be ensured.
- 2.3.3 The system should be guaranteed to be accessible always except for maintenance times.
- 2.3.4 System should be available 95% of the time.
- 2.3.5 In the case of a failure, the system should recover in at most 1 hour.

2.4 Database

2.4.1 Data shall be held in a secure database.

- 2.4.2 Database hierarchy shall be constructed in such a way that it is efficient and protects the privacy of users' data.
- 2.4.3 All changes' logs shall be kept in a database.`

2.5 Annotations

- 2.5.1 The W3C Web Annotation Data Model shall be used for annotation.
- 2.5.2 The annotations shall be stored and retrieved based on <u>Linked Data</u> Platform.
- 2.5.3 JSON-LD format shall be used for annotation representation according to W3 documentation.
- 2.5.4 The annotations shall be tested by the test team to ensure that they work correctly.
- 2.5.5 Suggestion of annotation should allow urls while creating an annotation.
- 2.5.6 Retrieving annotations shall be allowed for all users.
- 2.5.7 Creating annotations shall be allowed for only registered users.
- 2.5.8 Updating and deleting annotations shall be allowed only if the online user is the owner of the annotation.

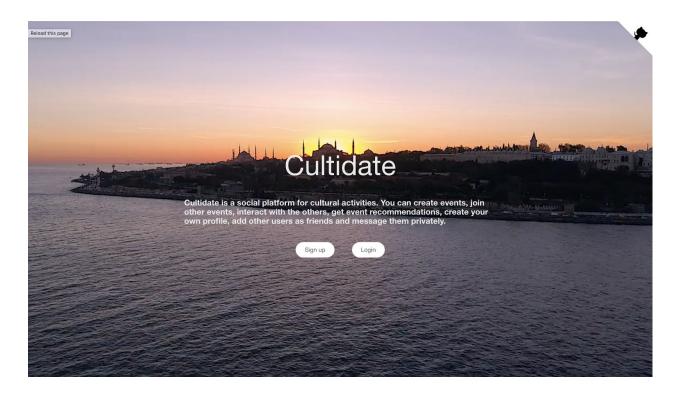
2.6 Accessibility

- 6. 2.6.1 The system shall be accessible on Android version 6.0 and higher and web platforms.
- 7. 2.6.2 The web platform shall be responsive to screen sizes of various sizes.

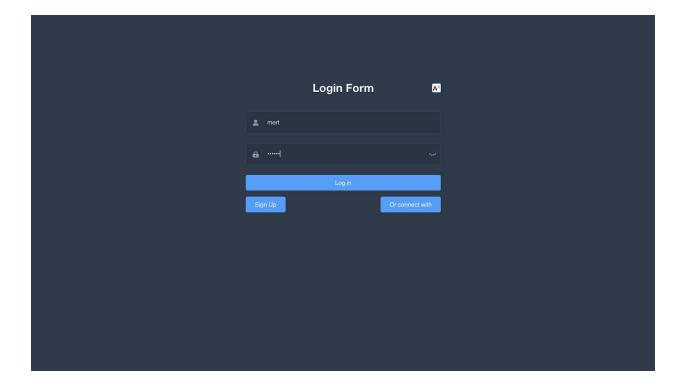
7.Design

7.1. Web

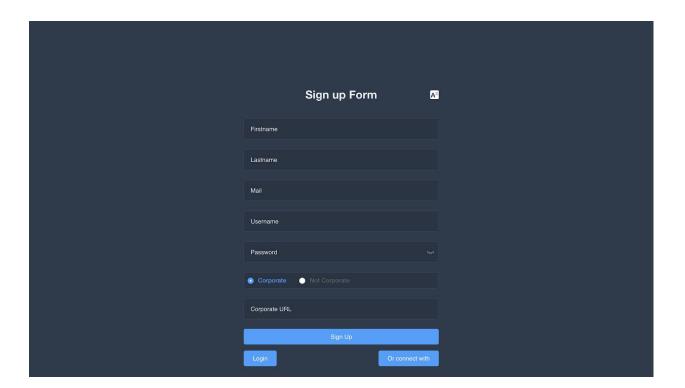
Landing Page



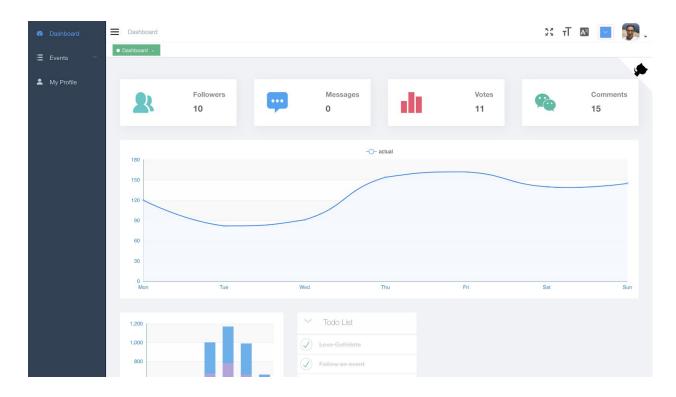
Login Page



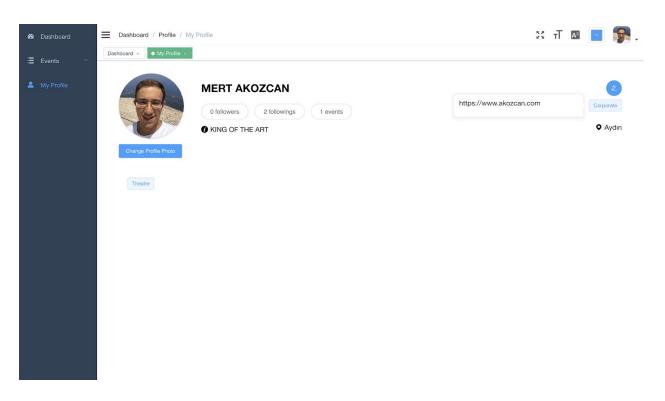
Signup Page



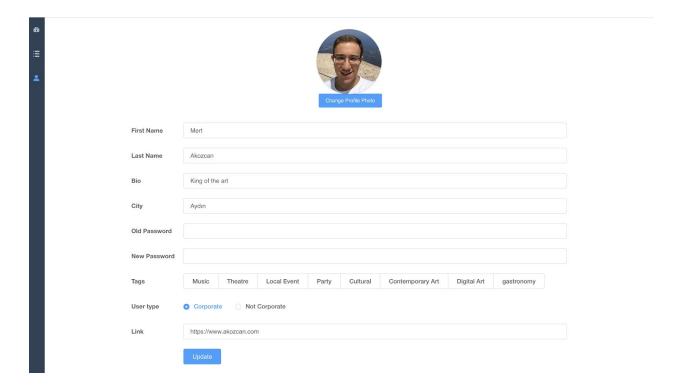
Homepage



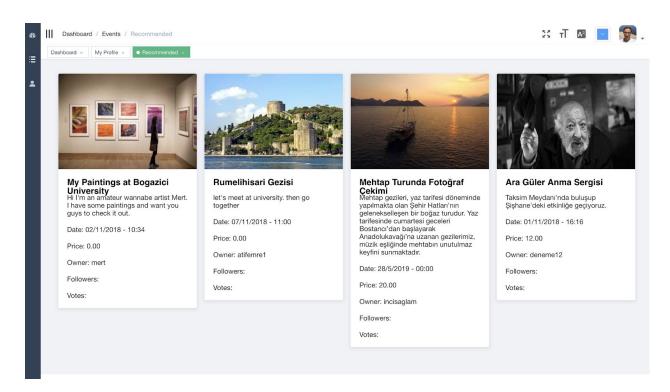
Profile Page



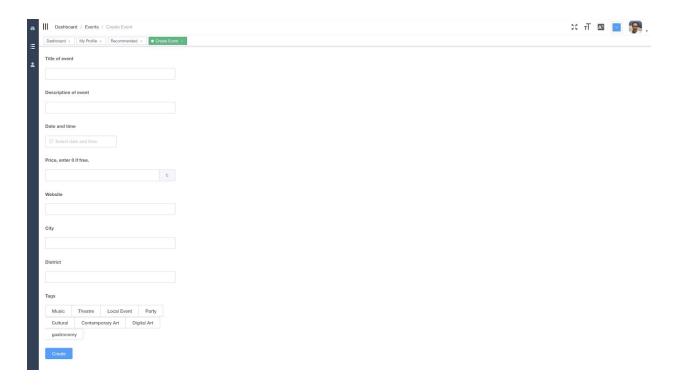
Edit Profile Page



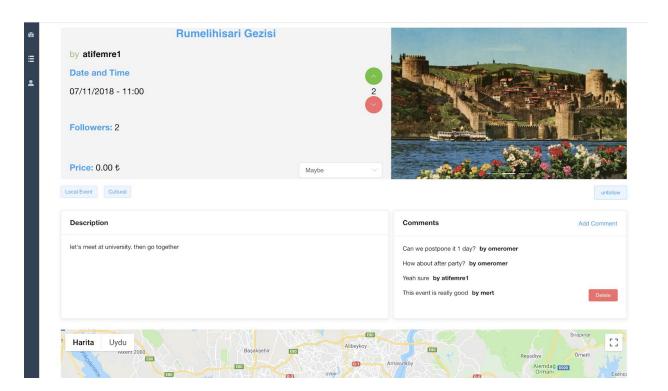
Recommended Event Page



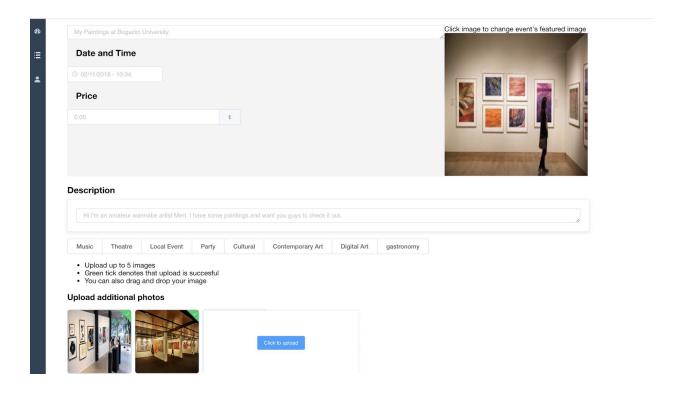
Create Event Page



Show Event Page



Edit Event Page



8. Project Plan

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You can reach the project plan in detail by clicking the link.

8. Evaluation of tools and managing project

a. Backend

Tool	Evaluation
Django	Modern, efficient, well-structured web framework for Python
Django REST Framework	Powerful and flexible library for building REST API's in Django
Postman	Easy-to-use and powerful tool for testing API's
Heroku	Production environment that provides continuous integration & delivery, ready-to-use web server and database services. Heroku makes it easier to deploy and manage the web application.
AWS S3	Made easier and faster to store and access static files like profile and event images.

b. Frontend

Tool	Evaluation
React JS	Abandoned. Have a solid structure but can be complex while implementing simple methods.
Visual Studio Code	Modern text editor with almost no defect.
React Router	Abandoned. Non-intuitive API
Npm Package Manager	Easy to use and manage requirements.
Vue JS	A full featured framework which serves lots of easy usage for frontend

c. Android

Tool	Evaluation
Android Studio	Integrated Development Environment (IDE) for Android app development