

User Stories for Group 24

Software Praktikum FS 21

MAP GUESSЯ

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Project Description

We plan to implement a game in a similar fashion as [GeoGuessr](#). The player will be randomly placed somewhere on Google maps (for example: a country, a city or a monumental place like the eiffel tower). At the beginning of the game the map won't be visible and there are some clouds over the map. The goal of the player is to brush away as little as possible of the clouds to recognize the place he is located in. The player will give his answer by placing a pin on a map that is displayed on the lower left side of the screen. The scoring will be based on points. Depending on the game mode points are computed by time, accuracy of guess and amount of clouds brushed away.

There will be different game modes, you can also play against some friends.

Simple Option

- One game mode with brushing away clouds

Extensive Options

- Multiple game modes
 - **Clouds:** The Satellite picture provided by the Google API is covered in clouds in the beginning of the Game. The player can brush away some of the clouds to see the satellite. The more clouds he brushed away the less points he gets for the correct answer
 - **Pixelation:** The Satellite picture provided by the Google API is very blurry. The map gets more clear while the time passes. The later you guess the correct place the less points you get.
 - **Time:** The Satellite picture is completely clear. This mode is all about speed. The faster you recognize the place the more points you get.

How we satisfy the Project Requirements

Technology Stack

React, Java, Spring Boot, GitHub (Actions), Heroku, JPA

Client And Server Structure

- Client for playing the game with friends in the browser
- Server for coordinating game, points, rankboard, handling GoogleMaps API Integration

Server REST API

Our server will provide a rest API with endpoints for the different clients to consume. Finding a room, submitting answers, processing answers, sending out results, ...

Persistence layer

We will store scores to build up a leaderboard, we will store ongoing game status, results, members, list of coordinates we want to show to the user for them to guess.

Working on a shared goal

It is a guessing game that is played in real time. The player who guesses the location as fastest, receives the most points. The goal is to encourage the players to use their intuition and geographical knowledge to surpass their opponents.

Usefulness of Task

Task is more than cust CRUD Operations, we have to coordinate multi user game play, who's faster, and in general the fun aspect gives our application a decent degree of usefulness

Small User base is enough

It is enough to have one or up to 3 friends to play with. You create a game room which they can join so no big user base is needed for the application to be useful.

External API

We will use the Google Maps API for Satellite imagery.

User Stories

User Authentication

US1: User Authentication Management - Register

Title: User Authentication Management - Register		
Id: US1	Priority: Critical	Estimate: 4h
As an interested future game player		
I want to register an user account with my chosen credentials(i.e. username and password)		
so that I can access authenticated web pages and play the game as an authenticated user. As an authenticated user I can start a game and my game scores contribute to the overall scoreboard of all the user's scores.		
Acceptance Criteria		
Given a unique non-empty username and a non-empty password	When the user registers for a new account	Then the user is successfully registered, logged in and can access all application features
In case of failure a descriptive error message is displayed to the user and the user is encouraged to try again with the required changes highlighted in the error message. (Non emptiness of username or password, or non uniqueness of username)		

US2: User Authentication Management - Login

Title: User Authentication Management - Login		
Id: US2	Priority: Critical	Estimate: 3h
As a registered game player		
I want to login back into my account by providing the username and password of my already registered user		
so that I can access authenticated web pages and play the game as an authenticated user.		
Acceptance Criteria		
Given an already registered username and a correct matching password	When the user logs back into his account	Then the user is successfully logged in and can access all application features and sees all the content created during his logged in sessions (their contributions to the scoreboard)
Given an already logged in user	When the user tries to log into	Then the user is automatically

	their account	redirected to the applications homepage because he is already logged in
In case of failure a descriptive error message is displayed to the user and the user is encouraged to try again with the required changes highlighted in the error message. (A non registered username is used or an incorrect password was provided for a valid user account)		

US3: User Authentication Management - Log Out

Title: User Authentication Management - Log Out		
ID: US3	Priority: Critical	Estimate: 1h
As a authenticated user		
I want to perform a logout by clicking a button on the top right		
so that I can log out of my user account and be redirected to the landing page and no other user using my browser after me can play on my account without logging in again.		
Acceptance Criteria		
Given being logged in	When I press the Log Out button	Then I want to be logged out and redirected to the landing page
Given being logged out	When on the landing page	Then I don't want to be able to log out because I'm already logged out
In case of failure I want to be logged out anyways for example if my browser crashes while logging out. This should be an extra layer of security.		

User Management

US4: User Management - Edit/View Profile

Title: User Management - Edit/View Profile		
ID: US4	Priority: Critical	Estimate: 2h
As a authenticated user		
I want to be able to manage my profile's credentials		
so that I can view or change my credentials (name, username)		
Acceptance Criteria		
Given an already registered and logged in user	When I click on a my profile button accessible on the top right of the homescreen	Then I can see my credentials and have to opportunity to edit them
Given a non-empty updated username and name and a username that isn't yet taken	When I update my profile by pressing the save button	Then I will see the updated credentials displayed on the user page immediately
In case of Failure I will get an error message, with a short description of what went wrong (e.g. username already taken).		

Start Screen

US5: Home Screen - Home Screen Component

Title: Home Screen - Home Screen Component		
ID: US5	Priority: Critical	Estimate: 3h
As an authenticated User		
I want to be able to see all the important information in place. From here the user can change his profile, log out, start a game or check out the scoreboard.		
so that I can see all the available Information and options and venture into the application		
Acceptance Criteria		
Given being on the home screen	When I want to see the scoreboard	Then look at subcomponent "Scoreboard" (See US#6) on the right half of the home screen
Given being on the home screen	When I want to see/edit my profile	Then click on a button redirecting to subcomponent "View/Edit Profile" (See US#4) on the top right on the home screen
Given being on the home screen	When I want to start a game	Then look at "UserModeSelection" component (See US#7) on the left half of the home screen
Given being on the home screen	When I want to log out	Then click on the logout button on the top right of the home screen
In case of Failure The scoreboard component should be replaced by an error message showing that the scoreboard couldn't be loaded.		

US6: Home Screen - Scoreboard

Title: Home Screen - Scoreboard		
ID: US6	Priority: Important	Estimate: 3h
As an authenticated User		
I want to be able to see a scoreboard of the 15 best players with their names and achieved scores for each game mode. The Scoreboard Component is rendered on the right half of the homescreen.		
so that I can form an opinion on how good or bad I am relative to other users and whether I made it onto the scoreboard or not		
Acceptance Criteria		
Given being logged in	When the user is on the home page	Then a scoreboard of the 15 best players with their names and scores is displayed and updated as new scores are achieved
In case of Failure The scoreboard component should be replaced by an error message showing that the scoreboard couldn't be loaded.		

Game Preparation

US7: Game Preparation - Step 1: Select Usermode Component

Title: Home Screen - Step 1: Select User Mode Component		
ID: US7	Priority: Critical	Estimate: 1h
As an authenticated user wanting to play the game		
I want to be able to see two buttons “Single Player” & “Multi Player” rendered in a component on the home screen. The component is rendered on the left half of the home screen.		
so that I can choose whether I want to play alone or with other users.		
Acceptance Criteria		
Given being authenticated and on the home screen	When the user clicks on “single player” or “multiplayer” button	Then after clicking either one button the current “UserModeSelection” component is replaced by the “GameModeSelection” component. (See UserStory #8)
In case of Failure a descriptive error message should be shown to the user and encourage them to reload the page.		

US8: Game Preparation - Step 2: Select Game Mode Component

Title: Home Screen - Step 2: Select a Game Mode Component		
ID: US8	Priority: Critical	Estimate: 1h
As an authenticated user, after having selected the User Mode (See UserStory #7)		
I want to be able to see a button for each game mode of our application. The component is rendered on the left half of the home screen.		
so that I can choose which game mode to play for this game.		
Acceptance Criteria		
Given all our game modes	When seeing this component	Then a button for each game mode should be visible. (See all game modes UserStory #)
Given the game mode buttons	When clicking on one	Then once the game player starts it will be initialized to track scores and display the maps as defined per game mode (See UserStory #)
Given the game mode buttons	When clicking on one and having selected single user	Then once the game player starts it will be initialized to track

	mode	scores and display the maps as defined per game mode (See UserStory #) and start the game player (See UserStory #)
In case of Failure a descriptive error message is shown to the user encouraging them to reload and start from the beginning		

US9: Game Preparation - Step 2a Create or Join Room Component

Title: Game Preparation - Step 2a: Create or Join Room		
ID: US9	Priority: Critical	Estimate: 1h
As a authenticated user, after selecting GameMode (See US#8) this component should replace the GameMode Component.		
I want to be able to create a room and share roomkey with my friends or join the room of a friend. The component is rendered on the left half on the home screen.		
so that I can start a game with my friends and in real-time collaboratively participate in this game		
Acceptance Criteria		
Given that the user is authenticated and chose UserMode (See US#7) and GameMode (See US#8)	When the user navigates to that component	Then two buttons are visible: "Join Room" and "Create Room"
Given the user wants to join a room	When user clicks on the "Join Room" button	Then the "Join Room"-Component (See US#11) gets rendered
Given the user wants to create a room	When user clicks on the "Create Room" button	Then the "Multiplayer Waiting Room" (See US#10) -Component gets rendered
In case of Failure a descriptive error message is shown to the user encouraging them to reload and start from the beginning		

US10: Game Preparation - Step 2b Multiplayer Waiting Room Component

Title: Game Preparation - Step 2b: Multiplayer Waiting room		
ID: US10	Priority: Critical	Estimate: 8h
As an authenticated user, who selected the multiplayer mode and already created or joined a room.		
I want to be able to see the names of the other players and a button to signal to the players that I'm ready to start playing.		
so that the game can be started when all users are ready.		
Acceptance Criteria		
Given being in the multiplayer waiting room.	When the host (room creator) presses the "start" button	Then a countdown will be displayed. As soon as the countdown hits 0 the game starts.(See US#)
Given the user is the only one in the room	When the user wants to click on the ready button	Then the user can not click on the button, because the button is inactive
Given being in the multiplayer waiting room.	When another user joins the same room	Then the user can see instantly the joined user
Given being in the multiplayer waiting room.	When I want to see who I am playing against.	Then I will be able to see all the names of the players.
Given being in the multiplayer waiting room.	When I want to invite another user	Then a user can see the invite-code for the room and paste it and share it with a friend (sharing is not in the scope of the game)
In case of Failure an user can't start a game alone in Multiplayer Mode, an descriptive error message is shown to the user and gets redirected to the "Home Screen" (See US#5)		

US11: Game Preparation - Step 2c Join Room Component

Title: Game Preparation - Step 2a: Join a Room		
ID: US11	Priority: Critical	Estimate: 5h
As an authenticated user, after selecting “Join Room” on “Create or Join Room” (See US#9)		
I want to able to join a room with a roomkey		
so that I can start a game with my friends and in real time collaboratively participate in this game		
Acceptance Criteria		
Given that the user is authenticated and chose join on “Create or Join Room” (See US#9)	When the user navigates to that component	Then an input field is visible for the invite key is visible
Given that the user wants to join a game and has an valid key	When the user types the room key in and presses join	Then the “Multiplayer Waiting room”-Component (See US#10) gets rendered
Given that the user wants to join a game and has an invalid key	When the user types the room key in and presses join	Then an descriptive error message will be displayed, and the user can try another room key
In case of Failure a descriptive error message is shown to the user encouraging them to reload and start from the beginning		

Game Player

US12: Game Player - Core Game player

Title: Game Player - Core Game player		
ID: US12	Priority: critical	Estimate: 12h
As an authenticated user playing the game		
I want to be able to see all the important information in place. From here I can see the mini-map, header and satellite image.		
so that I can see all the available Information and play the game.		
Acceptance Criteria		
Given a selected game mode	When placing a pin as my guess on the mini map and pressing submit (see US#13)	Then a score should be calculated based on the game modes implementation
Given a selected game mode	When a new round starts	Then the satellite imagery is visually displayed according to the game mode.
In case of Failure a descriptive error is displayed and the user is navigated back to the home screen		

US13: Game Player - Header and Mini-map

Title: Game Player - Header and Mini-map Component		
ID: US13	Priority: Critical	Estimate: 4h
As a logged in user who is in an ongoing game session.		
I want to be able to see my current score, the amount of rounds, a countdown and a mini-map of the world.		
so that I know my score, how many rounds I have already played and how many rounds are left to play. Also so that I know how much time I have left to submit my guess. Furthermore, I should be able to click on the mini-map where I can drop off a pin to mark my guess.		
Acceptance Criteria		
Given being in an ongoing game session	When the state of the games changes (e.g. new round)	Then the header and its displayed values is updated
Given being in an ongoing game session	When the user clicks on the mini-map	Then the mini-map is enlarged
Given the mini-map is enlarged	When the user clicks on any location of the mini-map	Then a pin is displayed at the selected location
Given the mini-map is enlarged	When the user scrolls up, down or drags the map around	Then the map zooms in or out or moves around
In case of Failure an error message will be displayed, with a description on what went wrong		

US14: Game Player - Scoreboard in between rounds of Multiplayer mode

Title: Game Player - Scoreboard in between rounds of Multiplayer mode		
ID: US14	Priority: critical	Estimate: 4h
As a user who just gave his guess in the multiplayer mode.		
I want to be able to see the current score of all players and be able to see when the next question starts		
so that i know what the current score is. With this function it is also secured that the next question starts in sinc for all players.		
Acceptance Criteria		
Given being in a multiplayer mode game	When I submit my guess	Then I will see the current scoreboard of our room until all players finished the round.
Given after all players gave their guesses	When -	Then I will see a short countdown (5 sec) before the next round starts.
In case of Failure an error message will be displayed, with a description on what went wrong and what the user should do.		

US15: Game Player - Early Game Exit

Title: Early Game Exit		
ID: US15	Priority: Critical	Estimate: 3h
As a user who is in an ongoing game session		
I want to be able to press on an "Exit" button at any time		
so that I can exit the game without my score being saved and return to the Home Screen.		
Acceptance Criteria		
Given I am playing the game	When I desire to leave at any time	Then I should see an "Exit" button on the top of the screen.
Given I am in the middle of a game	When I press the exit button	Then the game should be abandoned and the score should not be saved.
Given I am in the middle of a game	When I press the exit button	Then I should be redirected to the home screen where I can start a new Game.
In case of Failure the game will continue and an error message will be displayed saying that the user		

should try to exit again.

US16: Game Player - End of Game / Final Score Page

Title: Game Player - End of Game / Final Score Page		
ID: US16	Priority: critical	Estimate: 3h
As a user playing the game and finishing my last question		
I want to to be redirected to the Final Score Page		
so that I can See my final score together with the scores of the people in the same room.		
Acceptance Criteria		
Given I am on my last question	When I press on the submit button	Then I'm redirected to the Final score Page where my Final score is visible as well as the Final scores of my room-mates.
Given I am on the Final Score Page	When I am looking at the scores	Then I want to see a button 'Finish' to end the game and go to the Home screen.
Given I pressed the Finish button on the Final Score Page	When I am being redirected to the home Screen	Then I want my score to be saved on my profile, and the scoreboard to be updated in case of the necessity.
In case of Failure An error message is displayed and the user is redirected to the Home Screen. The final score is saved if possible and the scoreboard is updated.		

Game Modes

Game Modes determine how the game player is influenced during a game. Different game modes influence the game player in two ways, **score keeping & visual display of satellite imagery**.

Otherwise the gameplayer works in the same way.

US17: Game Modes - Time

Title: Game Mode (Time)		
ID: US17	Priority: low	Estimate: 4h
As an authenticated user who is playing the game with the “Time” game mode.		
I want to be able to see a satellite picture that is completely clear unlike game mode “Pixelation” and “Clouds”.		
so that I can find out where I am and can take a guess		
Acceptance Criteria		
Given the round has started and the user does not know their exact location	When the user takes a long time to take a guess	Then the user receives less points for every second that has passed
Given the round has started and the user does not know their exact location	When the user takes a completely wrong guess	Then the user receives less points for every kilometer that the guess is off from the correct solution
In case of Failure an error message will be displayed, with information on what went wrong and a recommendation for the user on what to do.		

US18: Game Modes - Pixelation

Title: Game Mode - Pixelation		
ID: US18	Priority: low	Estimate: 4h
As an authenticated user which is playing the game with the “Pixelation” game mode.		
I want to be able to see the picture of the map pixelated, so that I won't be able to see where I'm at, at the beginning.		
so that I can find out where I am and can take a guess		
Acceptance Criteria		
Given the round has started and the user does not know their exact location	When time passes the map will get less and less pixelated.	Then the user can see where they are at and take their guess.
In case of Failure an error message will be displayed, with information on what went wrong and a recommendation for the user on what to do.		

US19: Game Modes - Clouds

Title: Game Mode (Clouds)		
ID: US19	Priority: high	Estimate: 4h
As an authenticated user who is playing the game with the “Clouds” game mode.		
I want to be able see a satellite picture that is covered with “clouds”.		
so that I do not know where I am and so that I can wipe off the clouds by holding the right mouse button		
Acceptance Criteria		
Given the round has started and the user does not know his/her exact location	When the user holds the left mouse button and hovers (draws) over the map	Then the clouds disappear in a radius around the mouse of the user
In case of Failure an error message will be displayed, with information on what went wrong and a recommendation for the user on what to do.		

Miscellaneous

US20: Miscellaneous - Beating a new highscore

Title: Miscellaneous - Beating a new highscore		
ID: US20	Priority: low	Estimate: 2h
As a user just having beaten the highest score on the scoreboard for the current game mode the user was playing		
I want to see confetti raining down the screen and having a crown symbol next to my entry on the scoreboard component.		
So that I can feel special.		
Acceptance Criteria		
Given score after finishing a game	When that score exceeds the current highscore	Then confetti should rain down on the computer screen.
Given score after finishing a game	When that score exceeds the current highscore	Then a crown symbol should be put next to my username on the scoreboard
In case of Failure no celebratory actions are taking place and the user is informed that it wasn't possible to add his score to the scoreboard.		