

UXD-M PROJECT

(SUPERVISOR MARTINA SCHUß)



ROCKETIVITY

(Productivity App)

Submitted by:

Milly Attree
Master: User Experience Design (UXD-M)
Matriculation Number 00110885

Declaration

Declaration in accordance with § 18 Para. 4 Nr. 7 APO THI

I hereby declare that the final project report submitted is my own unaided work, that I have not presented it elsewhere for examination purposes and that I have not used any sources or aids other than those stated. I have marked verbatim and indirect quotations as such.

Ingolstadt, 17.01.2021

Ingolstadt, 17.01.2021



Milly, Attree

Abstract

Multi-tasking and handling of complex tasks demanding mental involvement have become the norm of today's life. While trying to execute all tasks on time and with expected productivity, quite often people can either miss out on some tasks or cannot perform on the expected performance levels. As a person is almost always connected to his/ her phone, this opens up a channel of communication in the form of mobile application, which serves as a technical solution to this problem.

The communication via mobile applications can help track, remind, plan, organize, measure performance and so on, but the problem is lack of a single platform to perform all these actions. The aim of this project is to find a solution to this problem.

We devised a productivity mobile application to resolve this problem. Features that help to get the tasks done and help to measure / increase performance are included in the productivity mobile application, such as, My To Dos, Deep Focus, Reminders and Progress Overview. The brainstorming and idea generation was done within the team and sub-tasks were divided among team members. Using a human centered design approach for this project, we designed and developed all phases of the productivity mobile application. This includes, ideation, research, conception, evaluation, visual design, implementation and user study.

As a result, the productivity app called Rocketivtiy fulfils all the requirements that the users desired to balance the work and personal life, as well as make use of a single platform to manage their tasks and monitor their performance.

Table of Contents

Declaration	ii
Abstract	iii
1. Introduction.....	1 -
2. Project Plan	2 -
3. Tasks	4 -
3.1 Ideation Phase (Myself – team member)	4 -
3.1.1. Brainstorming	- 4 -
3.1.2. Collaboration of Team Ideas	- 5 -
3.1.3. Final Idea	- 5 -
3.2 First Conception Phase (Myself – team member)	6 -
3.2.1. Use Cases	- 6 -
3.2.2. Prototype tool selection (Adobe XD)	- 7 -
3.2.3. My Concept Idea	- 7 -
3.2.4. First Low Fidelity prototype	- 8 -
3.2.5. Second Low Fidelity prototype	- 9 -
3.2.6. First Evaluation Result Summary	- 10 -
3.2.7. Actual Time plan for first conception phase (14 th November – 22 nd November)	- 10 -
3.3 Second Conception Phase (Myself – Team lead / Main contact person)	11 -
3.3.1. Third Low Fidelity prototype	- 11 -
3.3.2. Second Evaluation Results Summary	- 12 -
3.3.3. Final Prototype (Advanced)	- 12 -
3.3.4. Documentation of Changes	- 12 -
3.3.5. Research for App Name	- 17 -
3.3.6. Actual time plan of second conception phase (26 th November – 2 nd December).....	- 18 -
3.4 Visual Design (Myself – team member).....	18 -
3.4.1. Moodboard	- 18 -
3.4.2. Design Assets	- 18 -
3.4.3. Ionic Framework Utilization.....	- 18 -
3.4.4. High Fidelity prototype with visuals	- 19 -
3.4.5. Actual time plan of visual design phase (30 th November – 5 th December)	- 19 -
3.5 Implementation (Myself – team member)	20 -
3.5.1. Software used in Implementation	- 20 -
3.5.2. SQLite Database.....	- 20 -
3.5.3. PhpMyAdmin	- 21 -
3.5.4. Actual Time plan (3 rd December – 20 th December)	- 23 -
3.6 Final Presentation (Myself – team member)	23 -
4. Summary & Reflection	24 -
5. Appendix	26 -
6. Literature	52 -

Table of Figures

Figure 1. Project Time plan	- 3 -
Figure 2. Gantt chart for Time plan.....	- 3 -
Figure 3. Human Centered Design Framework	- 4 -
Figure 4. Features and functions to include in app	- 5 -
Figure 5. time plan for first conception phase.....	- 11 -
Figure 6. Main screen iterations.....	- 13 -
Figure 7. Main screen subtask visuals.....	- 14 -
Figure 8. Focus timer iterations.....	- 14 -
Figure 9. Progress overview iterations.....	- 15 -
Figure 10. Reminder Screen iterations.....	- 16 -
Figure 11. Aqualert screen iterations.....	- 16 -
Figure 12. Notes screen iterations	- 17 -

1. Introduction

In today's world, most of the people are very busy and are not able to balance their work life and private life. The mobile users have access to many applications which aim to solve this problem to some extent, but they are not fragmented. Either all the problem solving functions are separated into several apps or the complete solution is overwhelmed with the other functionalities, which are kind of distracting and not user friendly.

As we all know that the more productive a user is, the more efficient user's work life will be. However, measuring productivity and figuring out ways to improve productivity has always been challenging. Especially the professional life has become more complex over the last decades. That's why many mobile users have been looking for productivity app nowadays, which could help them to improve and balance their life between work and private. This leads us to identify this problem area and address it in our User Experience design project app.

We started researching the core functionality that the productivity mobile application must have and which can solve the daily routine problems of users. The productivity app allows the user to get more work done in less time and makes the work "better", "smarter" and "faster".

Productivity app focus on collaboration of several functionalities, management of tasks, prioritize schedule and appointment deadlines, improve productivity and efficiency, set reminders for upcoming deadlines, etc. This is a powerful app which keep track of everything and provide a detailed report on performance and progress which the users can review and get motivated based on the results. It also has a Deep Learning mode to find out how much time user is spending on a particular task. It is a user friendly app that every age group can make use of.

2. Project Plan

At the very beginning we together (all team members) created a project time plan with all the phases of our project as shown in the Figure 1.

Ideation phase: The kickoff was an ideation phase, with a duration of about 1 week in order to finalize the idea to work upon. This phase went very well, we all participated in the brainstorming session and came up with several ideas that could be considered to work upon. Therefore, we invested time while scrutinizing the pros and cons of each idea. As a result, we came to the decision of opting for productivity app. After that we chronologically arranged all the phases along with tasks according to the timeline of every phase.

Research phase: The next was the research phase where we decided to conduct SWOT Analysis of competitors, personas, User requirements and Additional research. These all tasks were allotted a timeslot of 2 weeks. But in reality it took a much longer time than expected, as it was a crucial phase to research about the intended core functionality of the app.

First Conception phase: Next comes the first conception phase wherein we decided to create the wireframes and low fidelity prototype. This phase took 1,5 weeks to complete and to understand the goals of our users.

Evaluation phase: Then in the evaluation phase we had to purify the qualitative data and quantitative data, prepare a report of strengths and weaknesses of initial concept and propose recommendation of adjustments. This phase was allotted a timeslot of 2 weeks, but as the research phase had taken additional days, we all started working in parallel to save time and complete the project in time. However, the results were not satisfactory.

Second Conception phase: Next comes the second conception phase. At this stage we were still not sure about our concept. So we all (the first conception team members and second conception team members) worked together for finalizing the concept and again conducted the second round of evaluation, wherein we succeeded with a good result of user feedback. The second conception phase team then prepared the documentation of changes and made advanced prototype. This phase again took about 1.5 weeks in total, because we were in parallel working with evaluation phase.

Visual Design phase: The visual design phase started where we all brainstormed about the app name and made a doodle sheet to choose one name for our app. The visual design team together created the Moodboard and a high fidelity prototype of our app. This phase took 1.5 week to complete for all tasks, but again the implementation team started working in parallel with visual design team, so we all very well coordinated together to achieve our goal.

Implementation phase: Following was the implementation phase, which took 2.5 weeks to complete the database development, front end development and back end development of the app.

User Study phase: The user study was conducted in parallel with the implementation phase because high fidelity animated prototype were used to test with the users.

Documentation and Presentation: I took one week to prepare and complete the documentation and then another week to make the final presentation.

We also decided to have one contact person for each phase who would be responsible for the completion of task within the given timeline with the support of respective phase team members. Nevertheless, it was open for all team members to participate in as many phases as they wish.

I took this opportunity to participate and actively contributed in as many as 6 phases: Ideation, First Conception, Second Conception (team lead), Visual Design, Implementation and final presentation.

Additionally, we also created Microsoft Teams channel where everyone was informed and aligned at every stage of the project. We also shared with each other our contact info and email addresses. We also created a google drive folder to upload the stuff, which we prepared in our whole journey. We also had a Miro board where we collected all our thoughts and brainstorming ideas to give a right path to our productivity mobile application.

	Start Day	Deadline	Results	Start Day	Number of Days	Contact Person	Student (full name)	Status	Notes
Ideation									
	08.10.2020	15.10.2020	Brainstorming	0	7		All	Done	Done
Research									
	15.10.2020	05.11.2020	SWOT Analysis (Competitors)	7	21	Linus	Kathi	Done	
	15.10.2020	05.11.2020	Persona	7	21		Christin	Done	
	15.10.2020	05.11.2020	Requirements for Application	7	21		Julian	Done	
	15.10.2020	05.11.2020	Additional Research	7	21		Chris S.	Done	
							Elias	Done	
Conception							Christin	Done	
	27.10.2020	15.11.2020	Wireframes	19	19		Kathi	Done	
	27.10.2020	15.11.2020	Low-Fidelity Prototype	19	19		Chris	Done	
							Milly	Done	
Evaluation							Niklas	Done	
	05.11.2020	22.11.2020	Purified Qualitative Data	28	17		Julian	Done	
	05.11.2020	22.11.2020	Purified Quantitative Data	28	17		Chris S.	Done	
	05.11.2020	22.11.2020	Report of Strengths and Weaknesses of Concept	28	17		Elias	Done	
	05.11.2020	22.11.2020	Concept Adjustment Recommendations	28	17		Malik Ali	Done	
							Christin	Done	
Conception							Milly (mli.0375@thi.de)	Done	
	12.11.2020	29.11.2020	Documentation of changes	35	17		Megan	Done	
	12.11.2020	29.11.2020	Advanced Prototyping File	35	17		Kathi	Done	
Visual Design	19.11.2020	06.12.2020	Design Assets	42	17	Megan	Tim	Done	
							Malik Ali	Done	
							Milly	Done	
							Chris	Done	
Implementation	27.10.2020	13.12.2020	Usable Application with "real" Data	19	47	Tim	Milly	Done	
							Alexander	Done	
User Study							Julian	Done	
	03.12.2020	20.12.2020	Results from User Tests	56	17		Niklas	Done	
	03.12.2020	20.12.2020	Recommendations for Adjustments	56	17		Elias	Done	
							Chris S.	Done	
Documentation + Presentation								Done	
	17.12.2020	14.01.2021	Final Presentation	70	28	Chris S.	Milly	Done	
		Open	Individual Documentation				Everyone on his/her own	Done	

Figure 1. Project Time plan

We also created a Gantt chart to synchronize all the phases and allot timing for each phase. This Gantt chart was also helpful to plan and schedule the whole project timeline so that everyone can understand in which phase we were at a given time. It actually assisted us very well on how to manage and work in parallel.

As we all know an strict time plan is critical to achieve, but fortunately we succeeded to complete our project as planned.



Figure 2. Gantt chart for Time plan

3. Tasks

3.1 Ideation Phase (Myself – team member)

3.1.1. Brainstorming

Task: Development of interactive system using the Human Centered Design Approach

At the very first level we all had to brainstorm about some feasible ideas. So I thought of two ideas:

1. My First idea was ‘Accommodation’ platform to make the renting process easier, transparent and time saving where the owner’s preference is matched with the desired typed of tenant, for example if a tenant should be a student, foreigner, single, family person and so on. This is literally solving the problem between the owner and tenant and saves time for everyone.
2. My second idea is supermarket AR/VR app. As we are going through a pandemic situation where we all have to maintain the social distancing, so the supermarket app will help users to find product location, product information, and also self-billing the entire purchase in one go.

For these ideas I thought to keep in mind the following points:

- Main principle of human centered design approach,
- Ensuring a high level of usability, and
- Positive user experience in terms of user requirements.

These mobile application can be useful for all age groups with regard to the context of use.

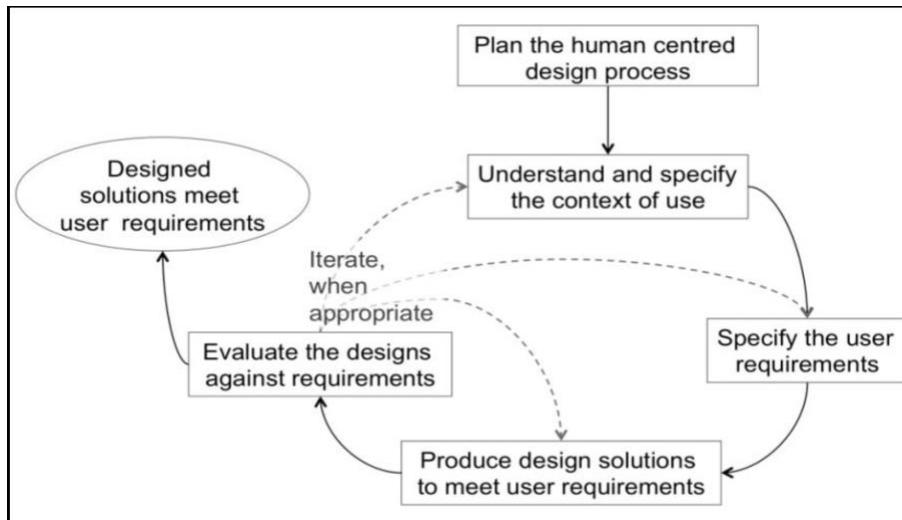


Figure 3. Human Centered Design Framework

3.1.2. Collaboration of Team Ideas

We all participated in this brainstorming process and then collaborated our ideas together, as you can see the list below.

- Messenger (Slack + WhatsApp → “Topic Organizer”)
- Accommodation Platform (Effort to make housing/renting more approachable)
- Productivity App (Distraction Blocker)
- Corona Socializing App (Chat-Room)
- Gesture Control as Corona safety-measure
- Hands-free cooking app
- THI-App re-imagined
- Printer system reworked
- Corona Attendance App
- Supermarket AR/VR App

3.1.3. Final Idea

All ideas were very interesting and almost fulfilled the task requirements of our project, but at the same time we have to opt for one idea to work together. Therefore, after our brainstorming sessions and rating of team ideas, we explored strengths and weaknesses of all ideas and did voting for it. As a result of voting, we came to the conclusion of opting for productivity app which was the most interesting out of ideas list.

We started thinking about the features and core functionalities that the productivity app could include, as depicted below in Figure 4.

There were some major aspects that we all strongly agreed to such as appointments/to-dos's, reminders, progress, tracking, health, gamification, calendar, comparing, sharing, deep learning mode, etc. Out of these, we realized that we can combine some of the aspects, for example appointments and to-do's can be combined.

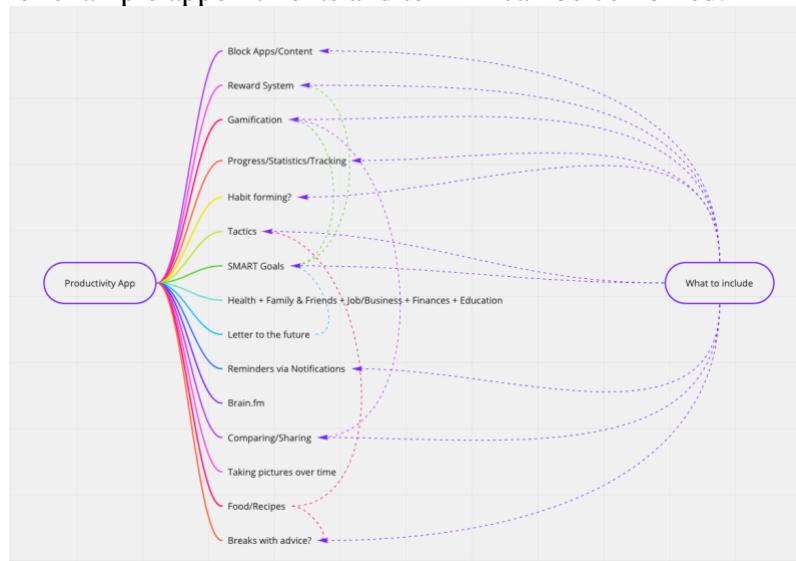


Figure 4. Features and functions to include in app

A. Target Audience

Subsequently, we begin analyzing that for “whom” this app is meant for. We researched that 15-55 age group is more overblown with the productivity issue. People mostly falling in this age group are not able to balance their work and personal life and are more dependent on productivity apps and tools to make their jobs easier. We also examined the attributes of our target group, for instance, smartphone users, career-oriented people, people with lack of intrinsic motivation, competitive users, people searching new goals all the time, people who are unhappy with their current situation, housewives, professionals, students etc.

B. Defining Problem and Goals

Problems:

We determined the following problems that our users might face:

- Symptoms of overworking / health issues
- Not able to achieve the deadlines
- Lacking motivation to perform tasks
- Existing Productivity apps could not help to improve their work efficiency
- Inactive at work / feeling sluggish while working
- Focus to achieve goal is lost / drifting away

Goals:

Similarly, we specify the following goals for our users:

- Help our users to make productive use of their time
- Achieve a better work life balance
- Maintain their daily routine
- Better overview on the tasks / to-do's
- Uphold the state of work flow
- Improved timetable with listed steps

3.2 First Conception Phase (Myself – team member)

3.2.1. Use Cases

After getting results from research team, we thought of some Use Cases. The user must be able to....

- create, edit and delete appointments
- create, edit and delete To-do's
- create, edit and delete Reminders (location-based and time-based)
- create, edit and delete Notes
- create, edit and delete elements of his/her vision-board
- get reminded to drink water and track his/her drinking-history
- track his/her time for different tasks (what did he/she do during the day?)
- start focus-sessions (30 minutes, 1 hour or 2 hours)
- share contents of the app (appointments, To-do's, etc.) with other users

- access all important information from one dashboard
- add deadlines for to-dos, reminders and appointments
- plan or structure his/her daily, weekly and long-term goals/tasks
- the user must be able to create categories to which the reminders, appointments and ToDo's can be related to
- highlight achieved goals of his/her vision-board
- prioritize different tasks
- get notifications for important events (e.g. deadline upcoming, appointments)
- get rewards for achieving goals
- get badges for achieving goals
- disable the gamification (rewards + badges)
- see his/her progress with any particular task
- get motivated by the application (get reminded of his/her goals to answer the question why he/she should continue with focused work)
- highlight elements with a sticker
- separate elements by private and work
- block disturbing content with one click
- The user (Persona: Suzanne) has problems separating her work life from the personal one. Therefore, she should be able to create her appointments or goals according to work label or personal label. This categorization of work or private label can be done from the beginning (categorize), see and organize (edit). This will give her a clear visualization and differentiation of work and personal activities.
- get motivated by the app receiving/reading motivational phrases
- block apps / advertisements
- create team goals and / or appointments

3.2.2. Prototype tool selection (Adobe XD)

In this pandemic corona time it is not possible to be physically present at the university THI, so we could not meet up to create the sketches and paper prototypes. As per the circumstances we arrived at a solution of using the Adobe XD prototype software from the beginning because this software has the capabilities to work on cloud system. Adobe XD enables UX designers to design interactive user experiences for web and mobile apps using a the same software, with multiple users working at the same time. We could design using artboards in XD and then wire the artboards to create an interactive prototype. We could invite the other user to join and work on the file that is saved in the cloud.

3.2.3. My Concept Idea

Given the small size of the mobile screen, it is challenging to establish a good mobile app navigation while including the 5 main features i.e. calendar for appointments and to-do's, aqualert for drinking water, reminders, notes and progress overview. I decided to choose a tab bar menu navigation, also considering the fact that "Good navigation is a vehicle that guides user". The tab bar menu navigation is a good solution for the apps. It gives access to the main segments of the core functionality with one tap and also permits the rapid switching between features. I also wanted to make sure that navigation must have a good usability and intuitive for the users. Additionally, tab bar menu easily

communicates the current location with the help of visual cues such as icons, labels and colors which enable the user to understand their exact location at a glance. Tab bars are persistent and remains on sight no matter what user is viewing and also has a single click access to all core functionalities. Also, it is easier to access with thumb if the person is using only one hand.

Further, the home screen is main focus area and user land up here once he/she opens up the app. So I thought to keep this area for two sections - one for progress overview which gives motivation to the user to perform well and keep track of the stuff, and another one to start the productivity timer wherein a user can set the time to work efficiently.

Next is the calendar screen which is displaying the calendar week with the appointments and to-do's. User can switch between these two and have a look on their daily schedule. I also used different colored dot visuals below the date to symbolize how many appointments a person has on a particular date. Furthermore, the dot colors are the actual appointment colors. Users can choose the color to priorities the appointments, for example red color dots for urgent appointments.

The Aqualert screen show the visuals of how much water has been consumed by user in on day. A user can set his/her goals to drink water for a day and with one click, one glass of water (in ml) is added to the daily amount of desired water requirement. The reminder screen has the functionality to turn ON and OFF the reminder. A user can add, delete and edit the reminders.

The last one is notes screen. I thought to segregate the different notes according to color coding. User can write notes and also share the notes with friends or family. With the visual color coding user can easily identify the notes category.

I thought of having the sign in / sign up screen so as to save the user data in the database. The sign up screen is only used for the first time account creation and then user can login. This will be helpful in case the user changes the mobile phone, the login credentials will still be saved in the database so that the user can still have access to his/her account. Please refer to the **appendix (5.3)** for visual clarification.

3.2.4. First Low Fidelity prototype

At this stage, the first conception team started working to design the concept for our app. All team members presented their draft ideas for concept and we collected all the good ideas together. All the team members highly appreciated my ideas, particularly appointment / to-do's screen, aqualert screen, reminders and notes.

Indeed, most of my ideas were accepted and carried forward to our first low fidelity prototype.

Starting with the main bottom tab bar navigation that has the 5 feature i.e. home screen,

deep mode, Aqualert, reminders and notes. The home screen has the main functionality such as appointments as well as to-do's. User can shift between day, week and month. The highest priority task has an exclamation symbol (!). And if user clicks on particular task, it opens up and display the details of it. Every screen has the steady bottom (main) and top (secondary) navigation bar as well as the 'floating plus icon' for add, delete and edit functionality.

The deep mode consists of 5 sessions. The user can choose for a long session or a short session. Besides that the user can jump to break mode for relaxing a bit and then resume the work mode. There is also a possibility to restart the session again. For example, user got a phone call or disturbed by someone else and his 5 minutes got wasted from the session. So, to be accurate and productive, user can resume the session again. Additionally, on this screen we thought of the user perspective and thus removed the bottom as well as top navigation, so that the user doesn't get distracted by other functionalities. The reminder and notes screen remains the same as in my concept idea, that is, reminder screen has the functionality to turn ON / OFF, add, delete and edit the individual reminders. The notes screen is segregated among different categories according to color coding. User can write notes and also share the notes with the friends or family.

We also added the vision board where user can add the life achieving goals, for example buy a house in 2023 with imaginary house image. Our app randomly picks one of these goals and display to the user once a day which provide user a real inspiration to work harder to achieve that goal. To access the vision board, we layout the app design in such a way that user can simply slide from left to right on floating goal icon which is available on the middle right screen. This button is also persistent and remains on sight as like the top and bottom navigation bars.

On the top secondary navigation bar we added the global search, filter, progress overview and settings functionalities. With the help of filter, user can sort the different categories and apply the selected filters. Progress overview displays the work done. User can analyze the progress for any specific day, week or month as well as category wise, for instance, for food, work, home rent, aqualert and so on. The setting screen is divided between general and account related. User can also logout from here. Please refer to the **appendix (5.4)** for visual clarification.

3.2.5. Second Low Fidelity prototype

In our weekly meetings we proposed our first concept prototype to the whole group including the supervisor and we got the valuable feedback that we should focus on the main attributes of our personas. This made us realize that we should emphasize the focus areas. This was a learning experience for all of our conception team and we again went through all the personas and selected the desired goals out of it. At that point, we revised our personas (Suzanne and Martin) and figured out their 4 major productivity problems. First one is tasks which covers the to-do's and appointments for a day, week and month. We also changed the entire screen color with the black and grey tone to emphasize our

user's priorities. In this task screen I propose the idea of displaying the to-do's in a progress bar to give the visual representation of the completed tasks. For instance, user has the main task of household chores and under that main task there are 4 sub tasks, that is cleaning refrigerator, mob the floor, make the bed and water the garden. Once the user complete the subtask and click on check box, the progress bar display the percentage of work done - as you can refer to **appendix (5.5)**. Second is reminders which is the same version of my concept idea with the addition of category flags. Third is notes that is again the same version of my concept idea with the addition of category flags. Fourth is the Aqualert and here we changed the human visuals with glass of water. With just one click – one glass of water is adding to the daily water consumption requirement. In this version we merged the plus floating icon button into the main bottom navigation bar as we removed the home icon. We also eliminated the secondary top navigation bar since we wanted to focus on the elementary areas of our app. This version of low fidelity prototype was then delivered to the evaluation team to further get the empirical feedback from "real" users.

3.2.6. First Evaluation Result Summary

Main Issue:

- No additional value, no reason to use this specific application, overall not interesting enough
- Could be changed by adding a scoring system with rewards (e.g. trophies) for progress

Others:

- Aqualert probably needs to be discontinued
- Cleaner separation between tasks, appointments and reminders
- Different solution for drop-down arrows and the progress bars
- What is the focus of the landing page/screen?

3.2.7. Actual Time plan for first conception phase (14th November – 22nd November)

With the delays of research phase, and also the suggestion from our supervisor to work in parallel, we started our first conception phase on 14th November. Thus we separated our tasks:

On November 14th and 15th we did uses cases and worked on individual concept ideas. On November 16th and 17th we sit together virtually and started fusing the best ideas together. On November 18th we presented our first prototype to the whole team and received feedback which was not positive. On the same day afternoon we started working again to prioritize our app's main features and generated 2nd prototype till weekend (22nd November) and delivered to the evaluation team to get real user feedback.

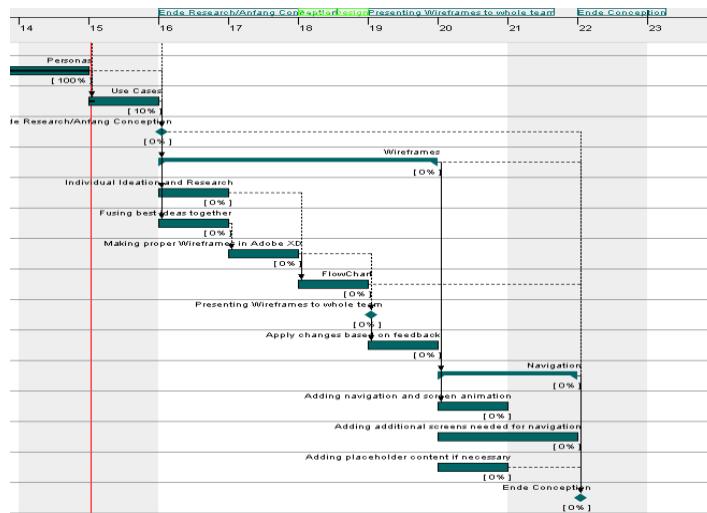


Figure 5. Time plan for first conception phase

3.3 Second Conception Phase (Myself – Team lead / Main contact person)

3.3.1. Third Low Fidelity prototype

Based on the evaluation results, we started working again on the concept but this time we combined both conception teams together and began our second conception phase because of time constraints and also the need of more brains to work upon our app concept. We re-prioritized the goals depending upon the feedback from our real users. At this moment in time, we discovered 4 main elementary attributes such as My ToDo, DeepFocus, Reminder and Progress.

The first one is My ToDo. In this we merged the appointments and to-do's together and rephrase the "Tasks" as "My ToDo" on bottom main navigation bar. We also changed the progress bar on To-Dos by counting (eg. 1/3 tasks) system, as the progress bar on To-Do was misleading for most of the users. Now we only displayed main To-Do's on the screen and user can see the subordinate To-Do's while clicking on a particular main To-Do. The To-Do has now had square check box instead of circular one which looked like an option button and again was misleading to the users. The user can check on the sub To-Do and it will display how many task has been done. User can see the To-Dos for a day, week and month.

The second is DeepFocus which was kind of similar one from our first low fidelity deep learning screen with some minor design changes. At this screen we have now 2 sessions. User can choose either short session or long session. Additionally, I proposed the idea to have a time bar which is a visual representation on which mode the user is right now. For instance, break mode or work mode wherein one long session has 2 break modes and 3 work modes. There is also a possibility to restart the session again, for example user got a phone call or got disturbed by someone and his 5 minutes got fade away from the session. So to be accurate and productive he/she can start the session again. Moreover,

to avoid distraction we eliminated the bottom as well as top navigation bar on DeepFocus screen.

The third screen is Progress overview which reflects the entire journey of the user. It shows the all Tasks progress along with category wise Tasks progress. For illustration, household category has completed 10 tasks out of 15 (10/15 Tasks). User can also review the progress by day, week and month wise. To maintain the consistency, we structured all the main screens in a horizontal layout with the similar functionality of the viewing system by day, week and month.

The fourth elementary attribute is RemindMe. Here we re-designed the Turn ON and OFF button with a toggle bell icon button. Furthermore, the bottom tab navigation bar remains unchanged except the rephrasing of main screen names. Please refer to the **appendix (5.6)** for visual clarification on all screens.

3.3.2. Second Evaluation Results Summary

- The participants seemed to like the overall application
- The way how to use the Deep Focus function needs to be clearer
- Difference between Play / Pause button and break button was unclear
- Maybe adding drop-down arrows or shading to the task bars
- Most participants would like to have some sort of score / gamification.

3.3.3. Final Prototype (Advanced)

Moving forward, our users finally got satisfied with our concept for productivity app, but it seemed like they were expecting some gamification element in our app and also some minor adjustment / clarity to deep focus screen. At this juncture, we were iterating our concept for the 4th time. Nevertheless we were pleased that our app is really getting good remarks from our actual users. So we removed this switching button of break mode / work mode and just kept the common illuminated play / pause button for the time being. So that the when the timer is OFF, it displays the pause button with break mode on time bar below and vice-versa. For more elucidation kindly refer to **appendix (5.7)** screenshots. For adding the gamification, we thought about including the galaxy solar system with planet and star components. For instance, while creating a new to-do, user can allot that task as a planet, star or a group of four star. This allotment is done on the basis of prioritization of To-Do, planet refers to high priority, group of four star has medium level then single star has less priority. After click on add task, user gets the notification pop-up “you just added the planet project meeting and it’s 5 moons to today’s galaxy” and user also receive an appreciation note “Nice work” after completing the main to-do within a timeline. These small planetary elements really enhanced the power of gamification in our concept.

3.3.4. Documentation of Changes

I created the documentation of changes myself together with one team member. I decided to make it with screen wireframes to display it like a story - where we started and how we evolved our concept ideas from the feedback of our real users.

A. Main Screen

At the initial concept we began with main focus area (appointments and To-Do's). This was accessible from home icon at the middle bottom navigation bar. Based on the first group and supervisor review feedback, we re-designed our concept and emphasized on priorities and rephrased the home icon with To-dos as you can see the **figure 6** below. Then we forwarded this screen for first empirical evaluation and got the real user feedback that they are unclear with the appointment and to-do's - "why both are separated one, and not combined". After getting this feedback we reshaped our todo screen, where we combined both, appointments and to-do's together as a single unit, which then was further sent for second evaluation. After second evaluation we received positive results from our actual users and some minor changes which we then implemented in visual design high fidelity prototype.

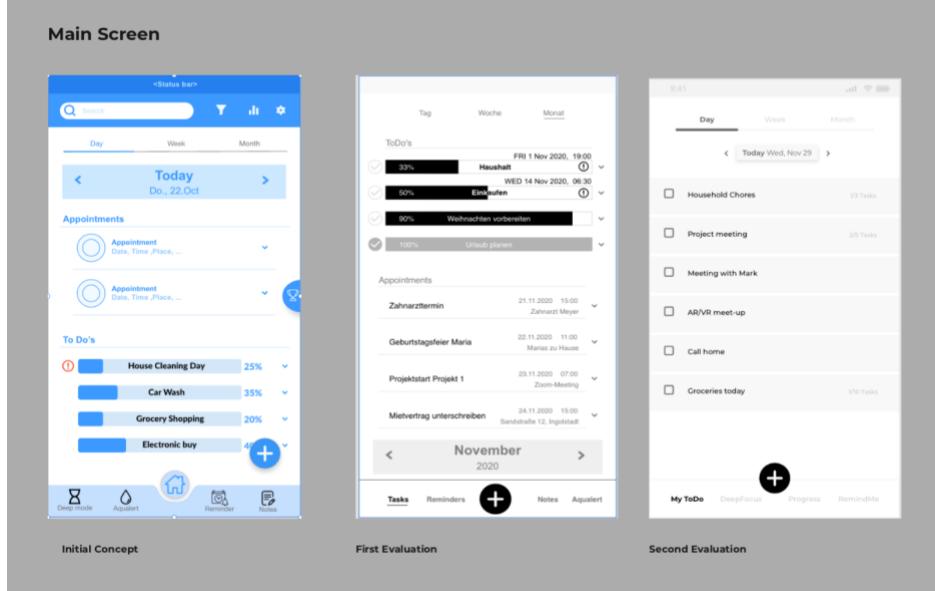


Figure 6. Main screen iterations

B. Main Screen Dropdown

In preliminary concept, we had drop down of the to-do's as well as appointments. On opening up the main to-do, user can view the deadline date in red color with subtasks. Here user can check a subtask once the task is done and the progress will be displayed in the main task bar. After getting the peer review we focused only on the main screens and did not design this sub screen where user can see the opened appointment and to-do. But this dropdown concept was always there, despite the matter that we had not redesigned for first evaluation. After getting positive results from first evaluation, we then remodeled this sub-screen for second evaluation.

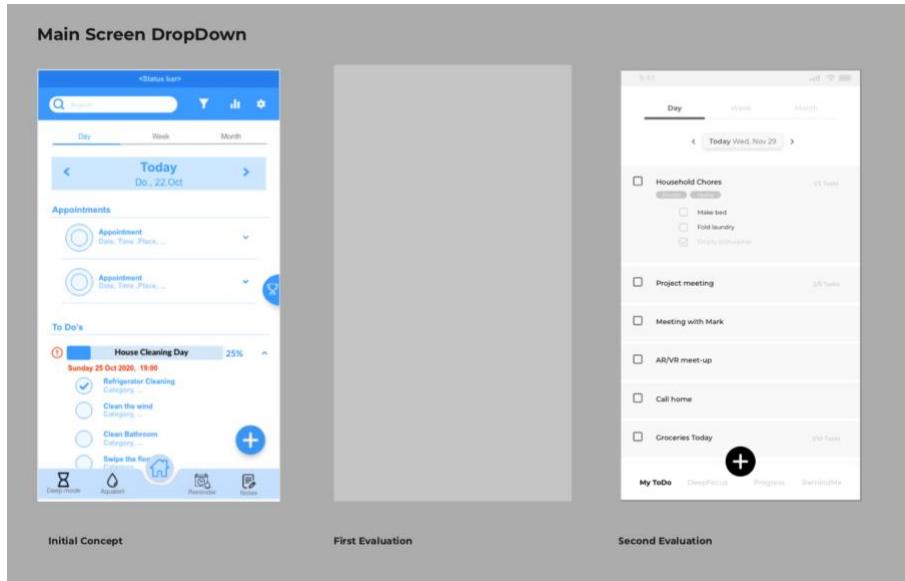


Figure 7. Main screen subtask visuals

C. Deep Learning / Focus Timer

At the initial concept we had five main features for our app and deep mode was one of it. We designed it with the short session and long session, user can play and pause and can restart / resume the session again. On the contrary, group members and supervisor said to focus on main elements and we decided to skip this deep learning mode as you can refer to empty placeholder on **figure 8**. After collecting the user answers, there was a requirement for focus timer to make the time productive. We opted for app consistency. Instead of circular time bar we replace it with linear time bar and did minor design changes and provided this screen for second evaluation. This time user was really satisfied with the iteration process of our concept and would like to have this kind of application for themselves.

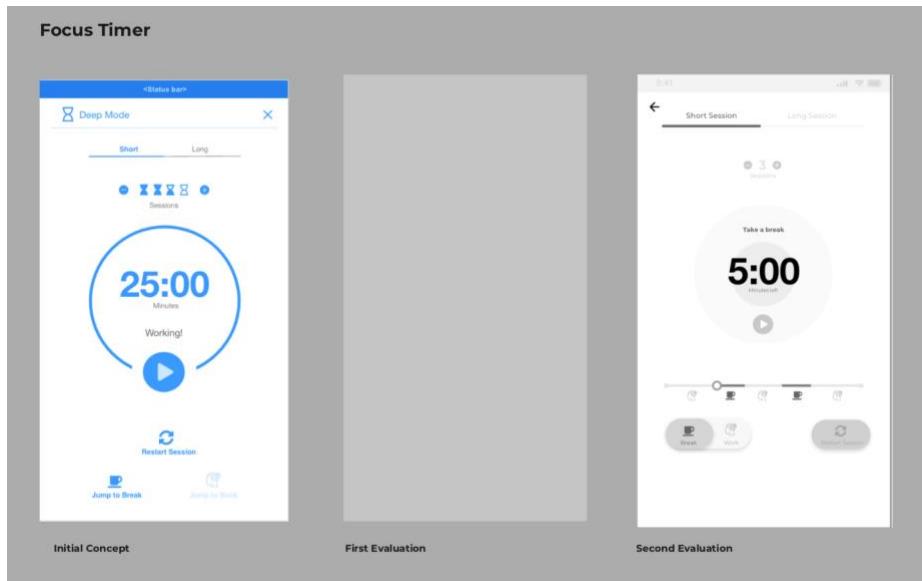


Figure 8. Focus timer iterations

D. Progress Overview

In the fundamental concept we had a progress overview, which in reality gives motivation to the user to perform well. In peer analysis jointly with supervisor suggestions, we preclude the progress overview concept as you can see empty placeholder in Figure 9. Further acquiring outcome from first evaluation, the user actually wants the progress status to keep track of the things and get inspiration to work more and harder to achieve goals. Consequently, we recast the progress as a straight bar in order to keep consistency.

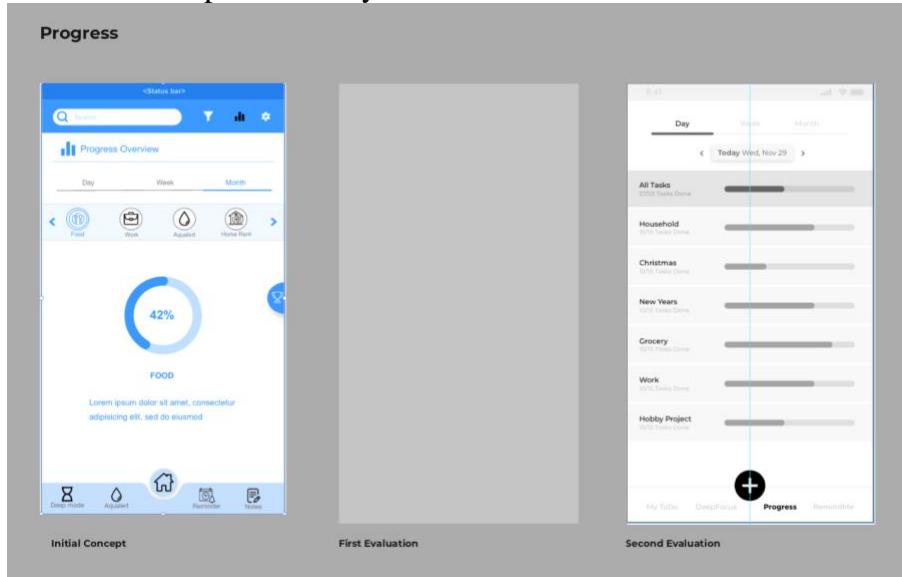


Figure 9. Progress overview iterations

E. Reminders

In the starting concept we structured the reminder in a grid format with turn ON / OFF functionality. On team analysis we re-done this screen with some additions of category flags, and after empirical evaluation we got a positive feedback for this screen. However, we (conception team) reworked on design to build the consistency of app. We redefined it in 'line by line structure' layout and added toggle buttons for turn ON / OFF functionality and rephrased reminders with RemindMe.

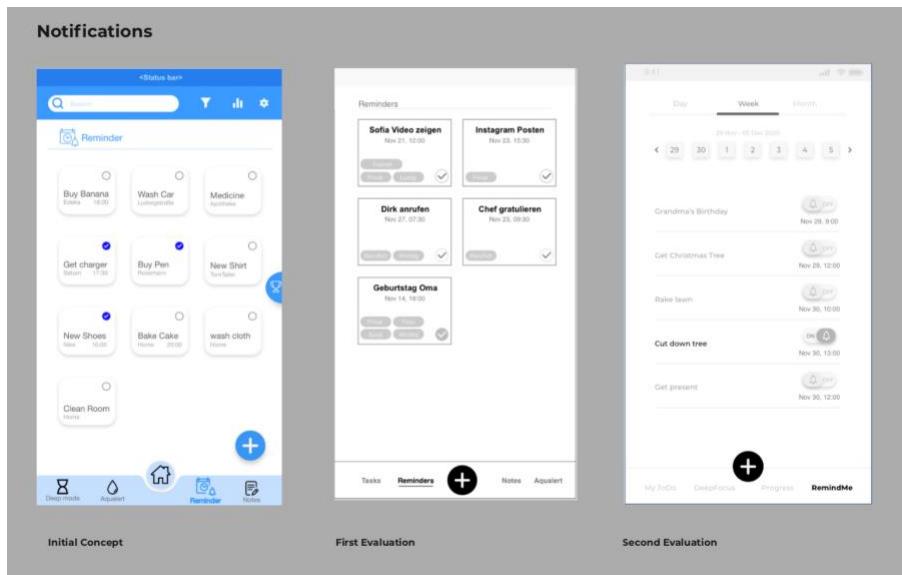


Figure 10. Reminder Screen iterations

F. Aqualert

In the initial concept we had Aqualert as a main core features of the app and designed with visual impression of human filling up with water – on each intake of glass water. After getting the supervisor and whole group feedback we made minimalistic design of aqualert screen, but still we were not sure because this design decision was again made by the visual design team so we just inserted glass as quantity measurement as the consumption visuals. This reworked screen was forwarded for first evaluation. On the basis of response from our users we decided to exclude this functionality from our concept, as our user's requirements were different. You can see blank place on the third position.

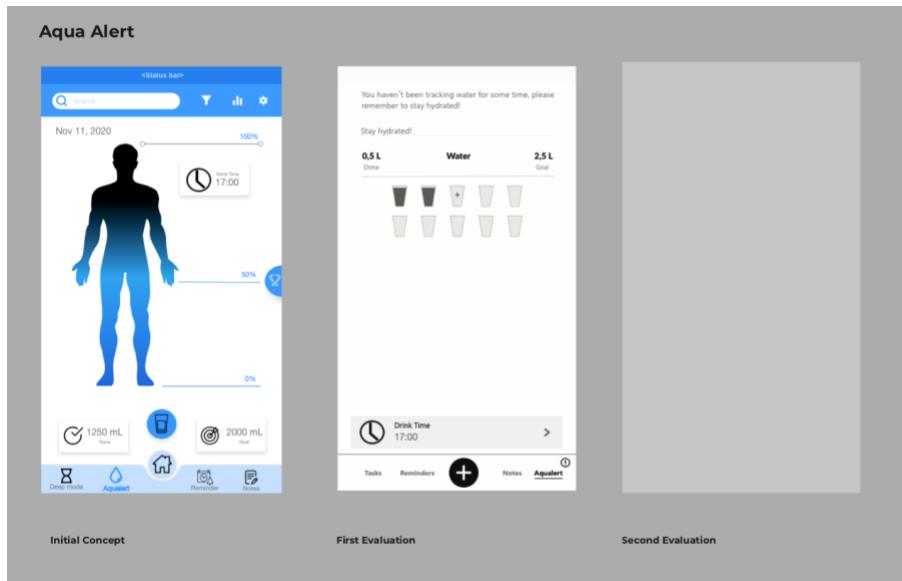


Figure 11. Aqualert screen iterations

G. Notes

The another feature is notes. In the initial concept we had notes with spotlight of the color coding on main task and while clicking it opens up as a list with sub-notes. On the assessment of supervisor and group together, we reshaped the notes also to maintain the consistency of overall screens. We applied the category flags and presented it in rectangular boxes, as you can perceive it from **figure 12**. We then delivered this screen for user analysis and receive user's opinion that they don't need extra notes feature, as they can write it in to-do's.s

So we eliminated notes also from our feature list. That's why the third place is empty.

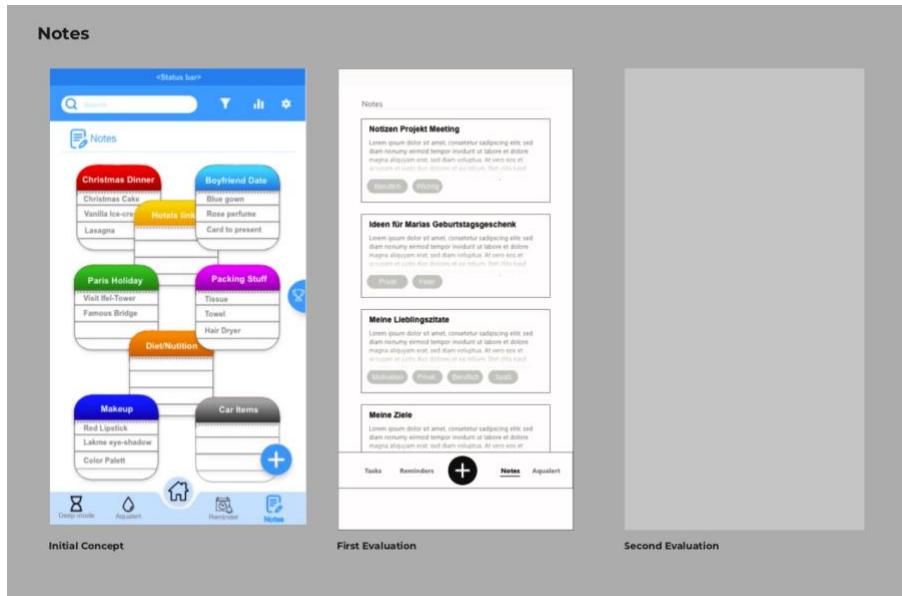


Figure 12. Notes screen iterations

3.3.5. Research for App Name

I thought of the app name as “ProFocus” which reflects our app’s theme: productivity focus / pro-actively focus. I go through many researches about “how to choose the perfect name for your app” and I gained extensive knowledge about this topic, such as:

- Conduct market research
- Take the feedback from your real users
- Check out the competitor’s app
- App should reflect the features it includes
- Think from the perspective of growth
- Keep it short and memorable

We as a whole team group settled on a plan of action that everyone should research for at least one name for the app and then we made a doodle poll to vote among all names. The maximum percentage of the voting for a particular name will win and that was “Rocketivity” which reflects our theme galaxy and feature productivity (rocket + productivity).

3.3.6. Actual time plan of second conception phase (26th November – 2nd December)

Reflecting upon the first evaluation results, the first conception team and second conception team (myself team lead here) started working together to give a rethought again to our concept because our users were not happy with what we presented to them. So we started working again on concept from 26th November & 27th November and delivered the third prototype for second evaluation. The evaluation done was on weekend (28th & 29th November). This time the results were in our favor but needed some slight changes which only the second conception team (myself and another team member) did from 30th November till 2nd December and also generated the documentation of changes report.

3.4 Visual Design (Myself – team member)

3.4.1. Moodboard

Our app theme is galaxy, so I brought forward my ideas of having a dark theme with galaxy colors because mostly apps nowadays are opting for dark theme as it helps enhancing the visual ergonomics by reducing the eye strain and battery usage in mobile devices. In this manner I thought about the user perspective. To give a contrast I choose turquoise green color to highlight the main components in dark theme UIs, or we can say turquoise is the main color of our app. So the majority of the space is allotted to dark surfaces.

I would say bulk portion of the moodboard colors were suggested by me and my team mates accepted them. We selected the Montserrat font for our app. There are four different sizes and type such as Heading text size is 14px bold, Main text size 12px bold, Secondary text size 12 regular and Tertiary text size 10px regular. If the text is deselected, we reduced the opacity by 50%. Additionally, I thought to apply the gradients to the progress bar to give a 3D effect / transition to the dark background.

I picked linear blending of one color to another for the straight bars. The “All task” progress bar is white in color ranging from #9D9D9D to #FFFFFF, the another category colors are magenta (#C14AAF to #FF7887), cyan (#0D6465 to #1DD5D6), indigo (#6E85F7 to #34C8FF), lemon yellow (#BEBE1A to #FFFF00), orange (#FF0000 to #FF8900) and sky blue (#127991 to #00CEFF). Please refer to **appendix (5.8)** for visual clarification.

3.4.2. Design Assets

We provided the assets in high definition format to implementation team, that were needed to start implementation of the app such as Background, Icons, click Buttons, progress Bars, toggle button, logos, images and text content etc.

3.4.3. Ionic Framework Utilization

As per the requirement for implementation of front end development code basic, we as an implementation team decided to use the Ionic framework for the development of front end.

I am part of the implementation team as well as visual design team.

So implementation team leader gave me responsibility to educate the visual design team members regarding ionic framework. Ionic framework is an open source – front end SDK framework that enables us to create a mobile based application for IOS / Android phones using the same codebase. It actually allows to create hybrid mobile applications. I helped my visual team members to understand the core functionality behind the ionic framework.

We used the UI components of ionic framework such as ion-toggle button for RemindMe screen, ion-datetime / ion-button for the add task screen, ion-item-divider to separate between the different tasks and reminders, ion-progress-bar for the progress screen, ion-nay for menu navigation, ion-slider button for the to-do's screen and so on.

3.4.4. High Fidelity prototype with visuals

Out of four main screens – I designed two screens: My ToDo and Progress screen. I also designed the sub screens of My ToDo and Sign in / sign up screen.

Starting with the first screen My ToDo I gave the royal blue color to the proportional grids which reflects the main tasks and also did the linear blending of one color to another for the background gradient. I applied the purple color for the sliding rounded rectangle at the top which displays the day and I highlighted the selected chunks of calendar (day, week, month) with turquoise green color. The bottom tab bar was assigned the dusky blue color. All the text is white in color but if the text is not selected or does not belong to that screen, it has opacity reduction by 50%.

I also designed the progress overview screen, so all the progress bars were allotted different gradient shades to make visual comparison. The sign in / sign up screen has two rounded rectangular button, one is for login and another for sign up for the first time. After clicking on sign up button it will lead to sign up screen, where user has to create account by providing email, password and confirm password. All the field areas have border highlight with turquoise green color. Similarly, while clicking on the sign in button user can login to get access to the app.

I designed the My ToDo sub screens as well. So the screen where user add task has several icons which resembles the planet, star, group of star, calendar, flag and so on. This screen appears like a card and black out the behind screen. The DeepFocus and RemindMe screen also have the same color coding.

3.4.5. Actual time plan of visual design phase (30th November – 5th December)

I and visual design team lead did the minor adjustment on concept screens as per the suggestions from second evaluation results. We two also started creating the Moodboard and designing the screens to present to the whole group on then coming Thursday.

3.5 Implementation (Myself – team member)

3.5.1. Software used in Implementation

A. Frontend Framework

- **ReactJS**

It is a JavaScript library to build interactive user interfaces.

- **Ionic UI Components**

An open source mobile UI toolkit for building high quality, cross-platform native web apps.

- **SASS (SCSS)**

It is the most mature, stable and powerful professional grade CSS extension language with advance features.

B. Coding Tools

- **Microsoft Visual Studio (VS code)**

It is a powerful source code editor which runs on computer desktop

- **Google chrome or Firefox developer edition for debugging**

- **Npm package manager**

C. Database

3.5.2. SQLite Database

As part of the implementation team, we had not decided which database software we have to use for our app and when the tasks were divided among implementation team.

The team lead assigned me database development task and I accepted it.

It was open for me to choose any database software to create the tables where our user data will be stored. Therefore, I researched about several software's and I opt for SQLite database – it is an in-process library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine (sqlite.org/about). I generated three tables inside rocketivity database, the syntax is written below. Please refer to **appendix (5.12)**

Sign in / Signup Database table syntax

```
Create table "sign_up" (
    "email" integer not null unique,
    "password" integer not null,
    "confirm_password" integer not null,
    primary key("email")
);
```

My ToDo Database table syntax

```
Create table "Todo" (
    "add_task" text not null unique,
    "sub_task1" text,
    "sub_task2" text,
    "sub_task3" text,
```

```

“time” numeric not null,
“date” numeric not null,
“category” integer,
primary key(“add_task”)
);
  
```

RemindMe Database table syntax

```

Create table “Reminder” (
“name” text not null unique,
“time” numeric not null,
“date” numeric not null,
“turn_ON” integer,
primary key(“name”)
);
  
```

3.5.3. PhpMyAdmin

I delivered the database to our project manager to upload on domain host but unfortunately that database file was not supported by the server that project manager was using. So the project manager asked me to create again the database using phpmyadmin XAMP/MAMP software.

Then I redone my database part again in the suggested software and successfully uploaded the database on domain hosting. Similarly I created the rocketivity database with 3 tables which are listed below and for more clarification please refer to **appendix (5.13)**.

Sign in / Signup Database table structure

Name	Data Type	Range	Null	Unique / primary Key
Email	varchar	50	Yes	Yes
password	varchar	20	Yes	No
Confirm password	varchar	20	Yes	No

My ToDo Database table structure

Name	Data Type	Range	Null	Unique / primary Key
Main_task	varchar	50	Yes	Yes
Sub_task01	varchar	50	Yes	No
Sub_task02	varchar	50	Yes	No
Sub_task03	varchar	50	Yes	No
Time	Numeric	-	Yes	No
Date	Numeric	-	Yes	No

Category (planet, star, group of star)	Integer	10	No	No
--	---------	----	----	----

RemindMe Database table structure

Name	Data Type	Range	Null	Unique / primary Key
Name	varchar	50	Yes	Yes
Time	Numeric	-	Yes	No
Date	Numeric	-	Yes	No
Turn ON	Integer	10	No	No

Sign in / Signup Database dummy data

Email	Password
mi.0375@thi.de	Milly123
Mes3198@thi.de	Megan123
Til4301@thi.de	Tim456
Nip5311@thi.de	Niklas432

My ToDo Database dummy data

Main task	Sub task01	Sub task02	Sub task03	Time	Date	Category
Household chores	Make bed	Empty dishwasher	Fold laundry	14:35	2021-01-14	Planet
Project meeting	AR discussion	Blender model design	-	15:40	2021-01-14	Planet
Meeting with mark	-	-	-	18:00	2021-01-14	star
Grocery shopping	Tomatoes	Milk	Egg	19:00	2021-01-14	Group_star

RemindMe Database dummy data

Name	Time	Date	Turn_ON
Grandma Birthday	09:00	2021-01-21	Yes
Bake birthday cake	10:30	2021-01-14	Yes
Cut down tree	14:35	2021-01-26	Yes
Rake lawn	15:40	2021-01-20	No
Get salt for snow	18:00	2020-12-30	No

3.5.4. Actual Time plan (3rd December – 20th December)

As the visual design team including me finished our screens design till 2nd December and presented to whole team on 3rd December and got appreciation of our great work.

We (the implementation team) had a meeting together on 3rd December to distribute the tasks.

As my background is **computer science engineering**, the team lead handed me the responsibility to create a database because it requires technical knowledge. Also we were in the ending phase so we didn't have the time pressure as compared to team members in other phases.

So I started my work (database creation) on 6th December and delivered it till 8th December. But unfortunately the SQLite database couldn't get uploaded on domain hosting. So I created again the database in phpmyadmin.

3.6 Final Presentation (Myself – team member)

I created the final presentation template with a background design and structured the layout. I organized the presentation slides according to our project phases, so that it will cover up all the stages in a flow, like starting with the team introduction, and ending with the summary and final app video.

4. Summary & Reflection

Our aim was to make a mobile or web application using human centered design approach. We brainstormed different ideas and decided to proceed with the productivity application. This is because we identified the problem that being not productive and difficulty in managing so many tasks in our day to day routine is affecting a lot of people.

We then researched the requirements of our target group through user personas and by using Kano's model, we filtered in the most important requirements. We then conceptualized the main features of our app, which underwent iteration loops including evaluations before arriving at the final concept. We also maintained the consistency of all the screen layout by structuring it with horizontal grid layout.

Then we stylized our app into a dark galaxy theme as it helps enhancing the visual ergonomics by reducing the eye strain and battery usage in mobile devices. Also this solar galaxy system appeal like a gamification to the user. Then we have implemented the app using the visual studio code for developing the backend for our app.

So in our final concept, we have MY TO DO, DEEP FOCUS, REMIND ME, PROGRESS and GALAXY OVERVIEW.

My ToDo: In this screen user is able to view the to-do's (appointments and tasks) for a day, week and month. User can check for the subordinate to-do's also while clicking on a particular todo. After completion of a task user can click on check box and the task counting system (eg. 1/3 tasks) updates immediately. While clicking on the plus button below on tab navigation bar, user can add the main todo and assign it as a planet, star, group of star which then reflects in the galaxy overview screen.

Deep Focus: At this screen we made 2 sessions: short sessions and long sessions. At this screen we eliminated the bottom as well as top navigation bar to avoid distraction and to concentrate on work. Additionally, we designed a time bar below which is a visual representation on which mode the user is right now. For instance, break mode or work mode wherein one long session has 2 break modes and 3 work modes. There is also a possibility to restart the session again, for example user got a phone call or got disturbed by someone and his 5 minutes got fade away from the session. So to be accurate and productive he/she can start the session again.

Remind Me: User can add the reminder for important dates and also can apply the functionality of switch OFF and ON while using the toggle bell icon button.

Progress: The Progress overview reflects the entire journey of the user, wherein the user can review the progress by day, week and month wise. Here user can view all task performance progress bar as well as the category wise progress bar which gives motivation to work more and harder to achieve goals.

Galaxy Overview: This solar galaxy system is a gamification element which we added in our app to make the app more attractive for the user. User can assign tasks as a planet, star, group of star as

per the size or importance of the task. Then all those tasks can be viewed in the galaxy overview screen.

Conclusion: The app is very useful for the user to monitor his productivity and to take adequate steps to increase productivity and achieve goals.

Future scope : Due to time limitation we could not implement the solar galaxy screen, which we propose as a future development of productivity app.

5. Appendix

5.1 Brainstorming Screenshots.....	27-28
5.2 Final Idea Screenshots.....	29
5.3 My Concept Wireframe Screenshots.....	30-31
5.4 First Low Fidelity Prototype Screenshots.....	32-36
5.5 Second Low Fidelity Prototype Screenshots.....	36-37
5.6 Third Low Fidelity Prototype Screenshots.....	37-38
5.7 Final Low Fidelity Prototype Screenshots.....	38-40
5.8 Moodboard.....	41
5.9 Visual Assets.....	41-42
5.10 Ionic framework.....	42-43
5.11 High Fidelity Prototype Visual Design.....	43-47
5.12 SQLite Database.....	47-48
5.13 phpMyAdmin Database.....	48-51

5.1 Brainstorming Screenshots

Links	Total		Idea	Learn sth now	Not
			-Messenger		
			-Accommodation Platform		
			-Productivity APP		
			-Corona Socializing APP		
			(gesture) controlled Corona App		
			-Hands free Cooking APP		
			(Voice + Gesture)		
			-THI APP		

-Print System	→ one App				
-Corona Attendance	→ one App				
-Coron ipsum					
-Food sharing					
-Conscious APP					
-Supermarket APP (AR/VR)					

Productivity App

- Block Apps/Content
- Reward system
- Synchronization
- Progress
- Statistics / Tracking (Hours, ...)
- Habit / Reminders
- Tactics
- SMART goals
- Health / Family / Friends / Jobs / Finances / Education

- Longer term future mode
- Reminders via Notifications
- Brain fm (Music)
- Comparing / Sharing
- Taking pictures / editing
- Food / recipes
- Books with advice

Remote Controlled Corona App

- AR Application
- What do people touch?
- Multi-person usage
- ticket station, door handles, elevator buttons, train door buttons, light buttons
- AR train station
- bathroom facilities
- ATM

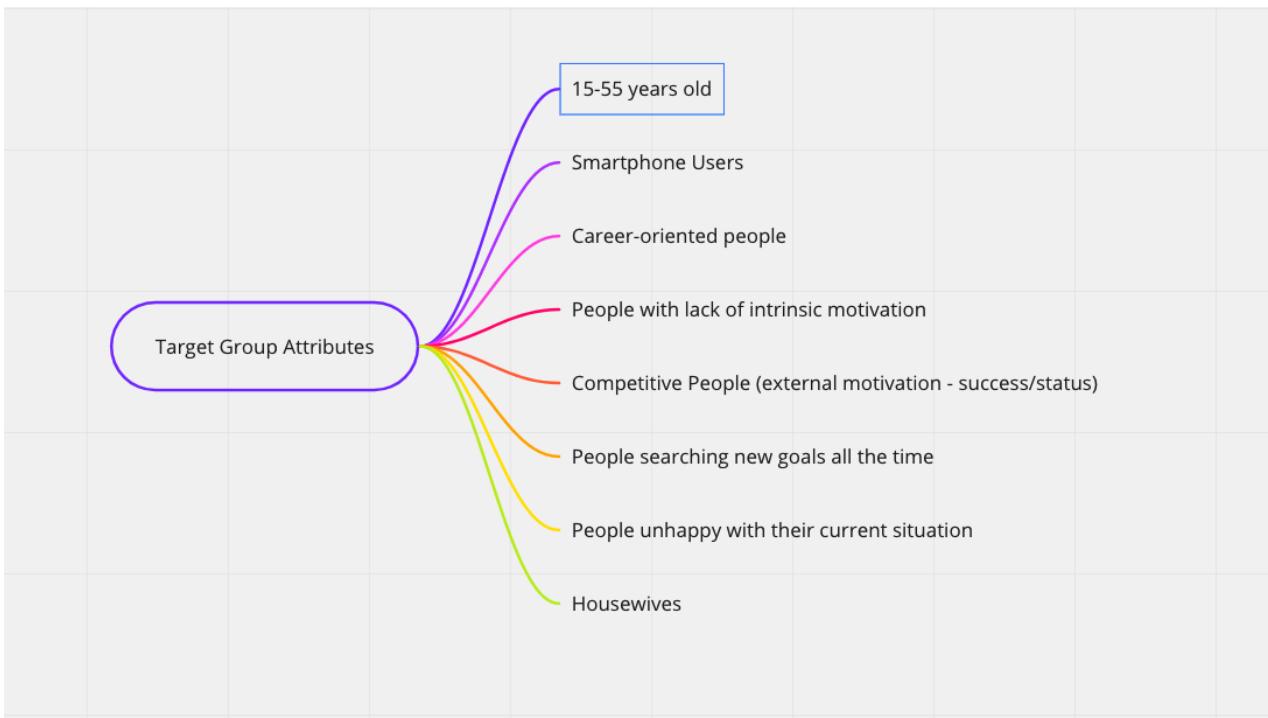
- night mode

- smart home
- accessibility
- scalability
- screen mirroring
- music sharing → personalities
- personalized environment
- personalized display
- card recognition

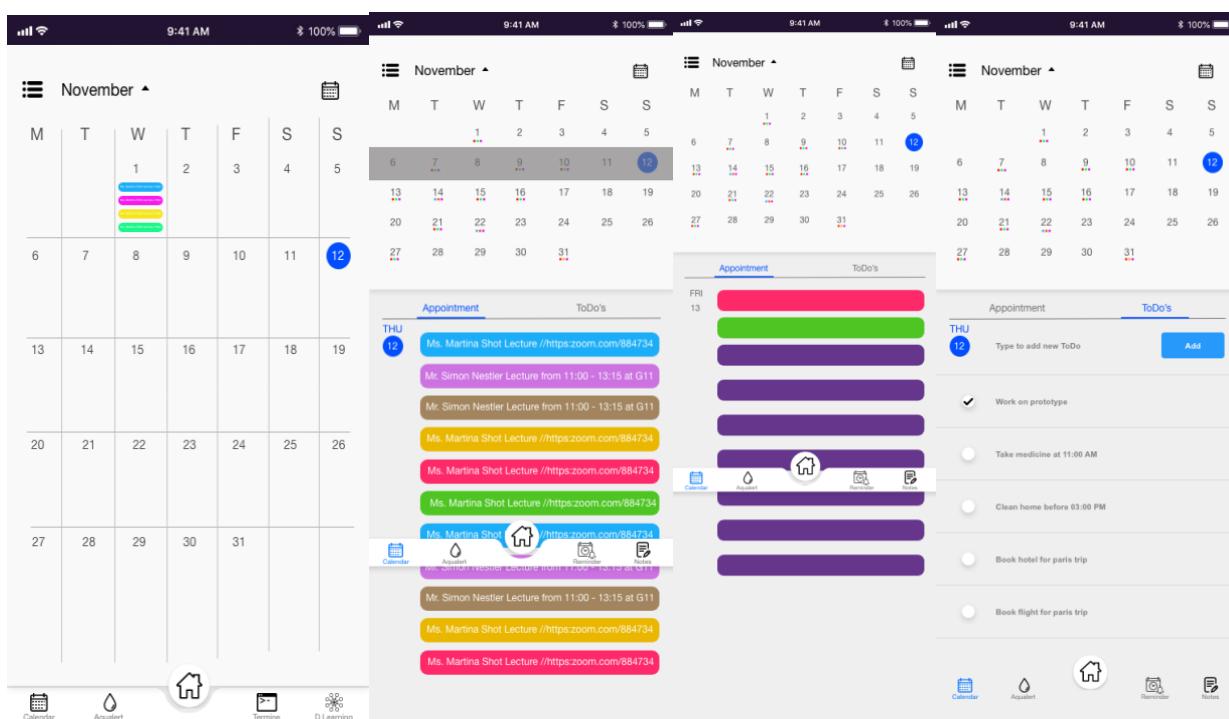
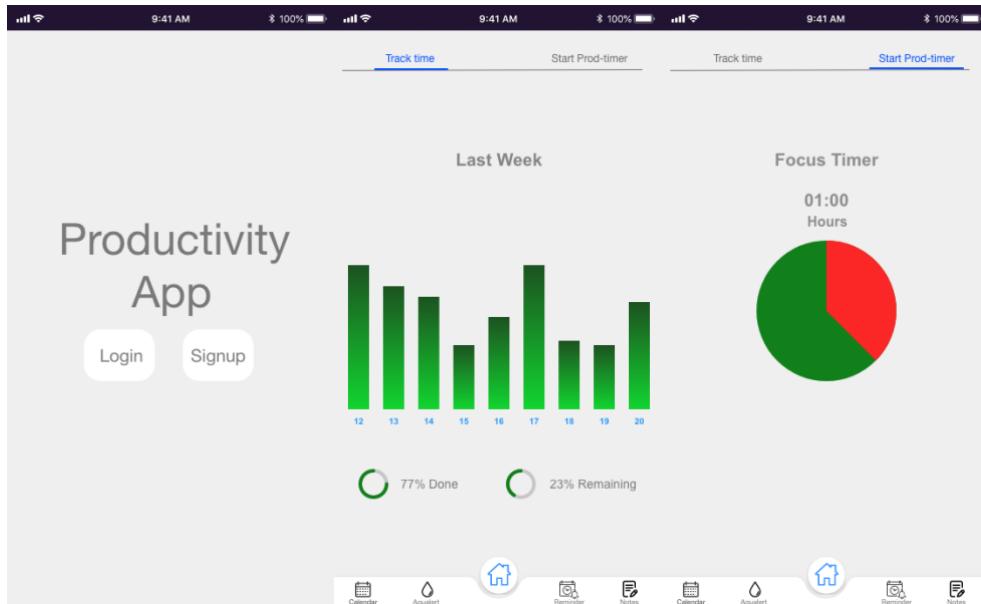
- Reward system
- Synchronization
- Progress
- Statistics / Tracking (Hours, ...)
- Habit / Reminders
- Tactics
- SMART goals

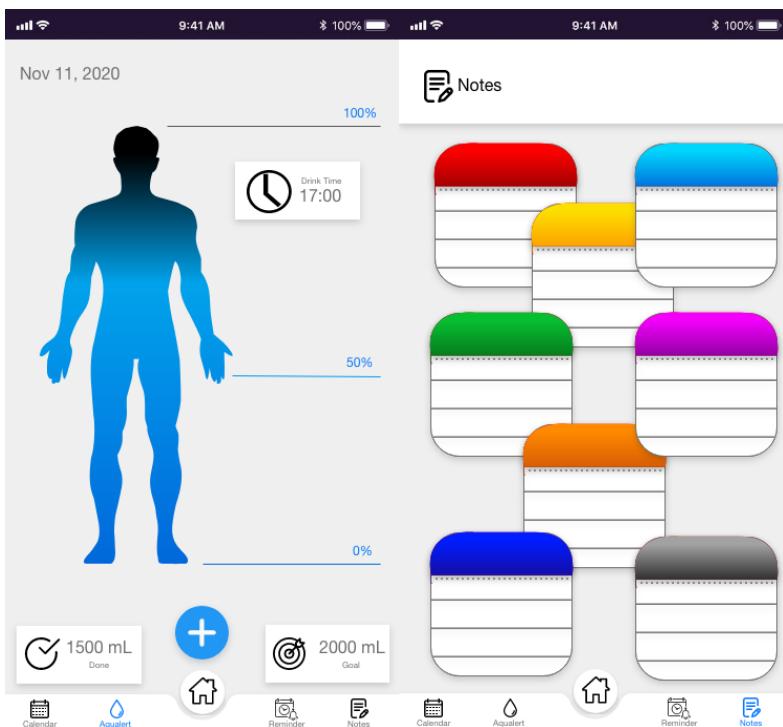
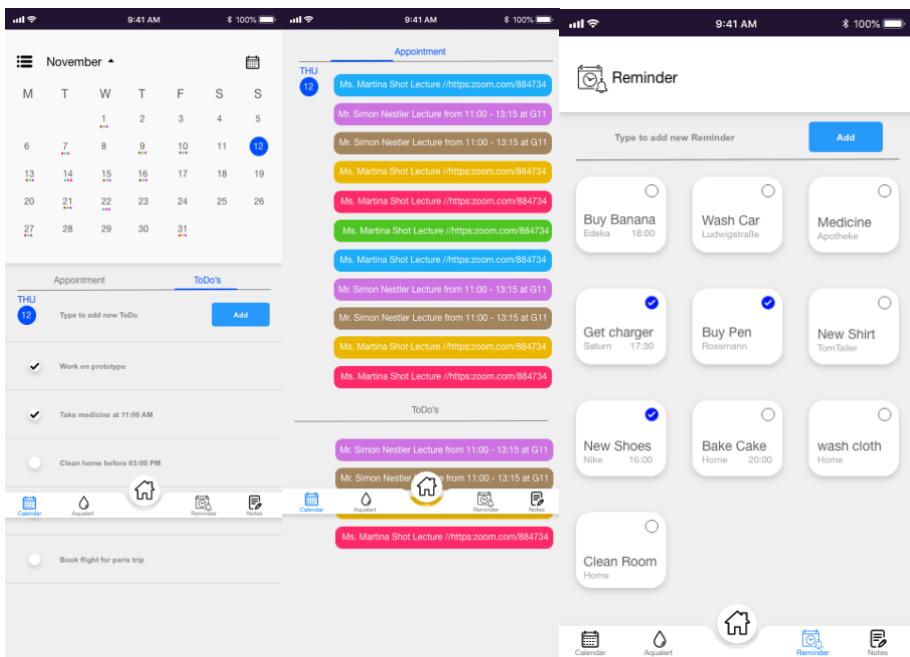
- Reminders via Notifications
- Brain fm (Music)
- Comparing / Sharing
- Taking pictures / editing
- Food / recipes
- Books with advice

5.2 Final Idea Screenshots



5.3 My Concept Wireframe Screenshots





5.4 First Low Fidelity Prototype Screenshots

The image shows two side-by-side low-fidelity prototype screens for user authentication.

User Login: This screen features a blue header bar with three status indicators labeled <Status bar>. Below the header is a "User Login" title. On the left, there's a green owl icon with a small trophy above it, and a box containing the text "Reaching Top 10 in Duolingo". To the right of the owl are two input fields: one for "Email" (containing "mi.0375@thi.de") and one for "Password" (containing a series of dots). A "CONTINUE" button is at the bottom.

Create an Account: This screen also has a blue header bar with three status indicators labeled <Status bar>. It features a "Create an Account" title. To the right are four input fields: "User Name", "Email", "Password", and "Confirm Password". Below these fields is a small note: "By creating an account you agree to our Terms of Service and Privacy Policy". At the bottom is a "CONTINUE" button.

Between the two main sections is a link: "Or Create a new account".

The image displays three identical views of a productivity dashboard, each showing a grid of cards and a navigation bar at the top.

Navigation Bar: Each view has a top bar with three tabs: "Day", "Week", and "Month". Below the tabs are three search bars, each with a magnifying glass icon and the word "Search".

Content Grid: The main area contains three columns of cards. Each column has a header: "Appointments" (with a blue circle icon), "To Do's" (with a red circle icon), and another "Appointments" section (with a blue circle icon).

- Appointments:** Shows a card for "Appointment Date, Time ,Place, ..." with a small trophy icon below it.
- To Do's:** Shows four tasks with progress bars:
 - House Cleaning Day (25% complete)
 - Car Wash (35% complete)
 - Grocery Shopping (20% complete)
 - Electronic buy (40% complete)
- Appointments:** Shows a card for "Appointment Date, Time ,Place, ..." with a small trophy icon below it.

Bottom Navigation: Each view has a footer with five icons: "Deep mode" (hourglass), "Aquabert" (water drop), "Grocery Shopping" (house with shopping bag), "Reminder" (calendar), and "Notes" (notepad). The "Grocery Shopping" icon is highlighted with a blue border and a plus sign, indicating it is selected or active.

<Status bar>

New Appointment

Title

Start Mo, 01. Nov

End Mo, 01. Nov

time **full-time**

Do, 12.Nov

Work

10 min before

Repeat Never

Place

Cancel **Save**

To Do's

House Cleaning Day 25% **Sunday 25 Oct 2020, 19:00**

- Refrigerator Cleaning Category, ...
- Clean the wind Category, ...
- Clean Bathroom Category, ...
- Swipe the floor Category

Deep mode **Aquabert** **Car Wash** 35%

Grocery Shopping 20%

Electronic buy 40%

Appointments

Appointment Date, Time ,Place, ...

Appointment Date, Time ,Place, ...

To Do's

Deep mode **Aquabert** **Car Wash** 35%

Grocery Shopping 20%

Electronic buy 40%

Appointments

Appointment Date, Time ,Place, ...

Appointment Date, Time ,Place, ...

Deep mode **Aquabert** **Reminder** **Notes**

+ Add

<Status bar>

New Task

Title

label 1 **label 2** **Add** **+**

Remind me about this

time **Daily, Weekly, ...**

Today, 6:00 p.m.

Subtasks

Subtask

Subtask

Subtask

+ add subtask

share

Cancel **Save**

<Status bar>

New Task

Title

label 1 **label 2** **Add** **+**

Remind me about this

Today, 6:00 p.m.

Subtasks

Subtask

Subtask

Subtask

+ add subtask

share

Cancel **Create**

<Status bar>

<Status bar>

Deep Mode

Short **Long**

Sessions

5:00
Minutes
Relaxing!

Restart Session

Jump to Break **Jump to Work**

25:00
Minutes
Working!

Restart Session

Jump to Break **Jump to Work**

<Status bar>

Do, 12.Nov

Appointment
Date, Time ,Place, ...

Appointment
Date, Time ,Place, ...

To Do's

- House Cleaning Day 25%
- Car Wash 35%
- Grocery Shopping 20%

Deep mode **Aqualert** **Reminder** **Notes**

<Status bar>

Deep Mode

Short **Long**

Sessions

4:59
Minutes
Relaxing!

Restart Session

Jump to Break **Jump to Work**

24:59
Minutes
Working!

Restart Session

Jump to Break **Jump to Work**

<Status bar>

Nov 11, 2020

100%

Drink Time 17:00

50%

0%

1250 mL Done

2000 mL Goal

<Status bar>

Search

100%

Nov 11, 2020

100%

0%

50%

1250 mL Done

2000 mL Goal

Deep mode **Aqualert** **Reminder** **Notes**

Christmas Dinner

- Christmas Cake
- Vanilla Ice-cream
- Lasagna
- Chinese noodles with chopsticks
- Red Wine

Progress Overview

Day Week Month

Food Work Aqualert Home Rent

AQUALERT 73%

FOOD 42%

Lorum ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod

Lorum ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod

Add new item >

Deep mode Aqualert Home Reminder Notes Deep mode Aqualert Home Reminder Notes Deep mode Aqualert Home Reminder Notes

Progress Overview

Day Week Month

Food Work Aqualert Home Rent

HOME RENT 73%

Lorum ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod

Progress Overview

Day Week Month

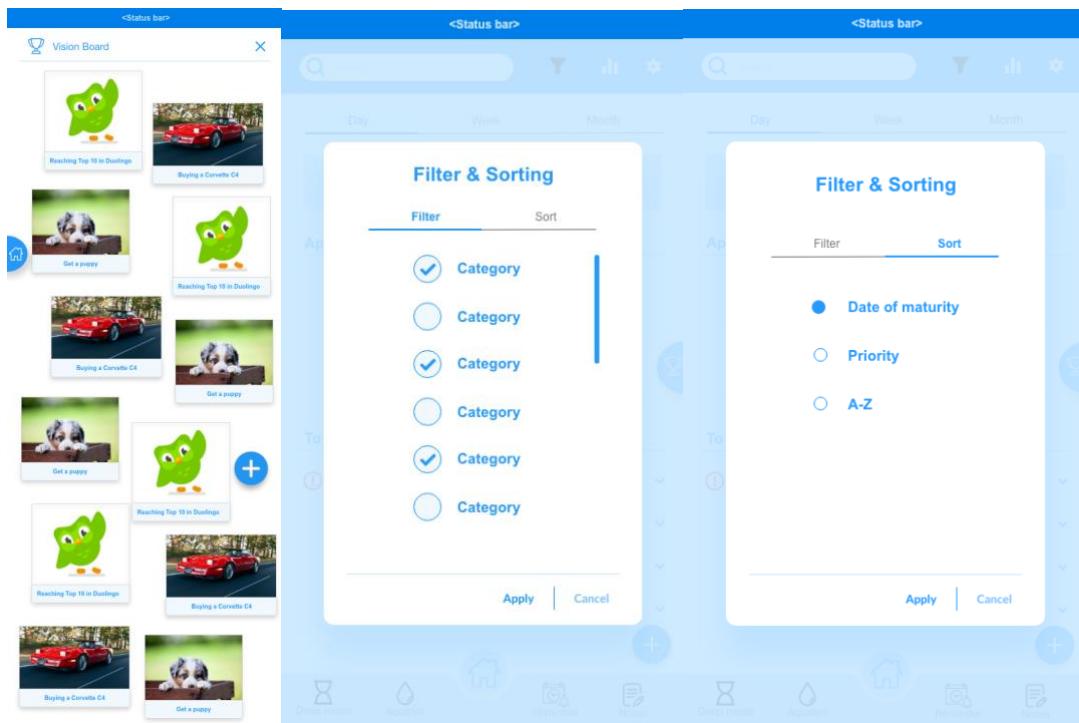
Food Work Aqualert Home Rent

Notes

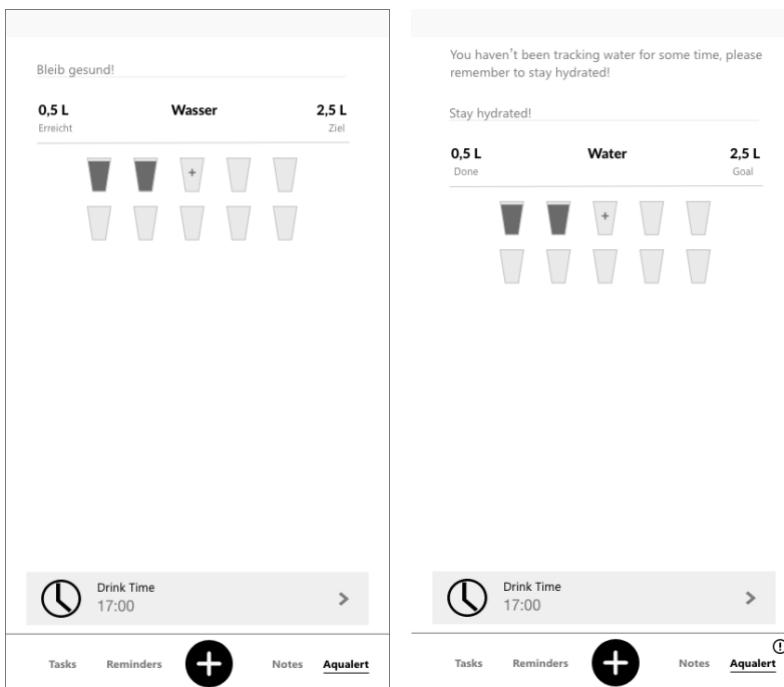
- Christmas Dinner**
 - Christmas Cake
 - Vanilla Ice-cream
 - Lasagna
 - Hotels link
- Boyfriend Date**
 - Blue gown
 - Rose perfume
 - Card to present
- Paris Holiday**
 - Visit Eiffel Tower
 - Famous Bridge
- Packing Stuff**
 - Tissue
 - Towel
 - Hair Dryer
- Diet/Nutrition**
 - Red Lipstick
 - Lakme eye-shadow
 - Color Palett
- Makeup**
 - Red Lipstick
 - Lakme eye-shadow
 - Color Palett
- Car Items**
 -

Notes

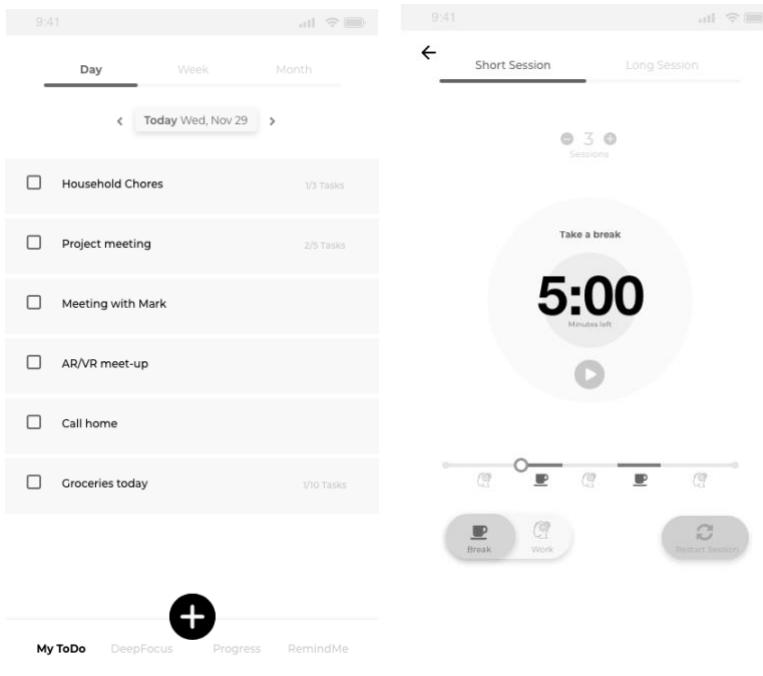
Deep mode Aqualert Home Reminder Notes Deep mode Aqualert Home Reminder Notes Deep mode Aqualert Home Reminder Notes

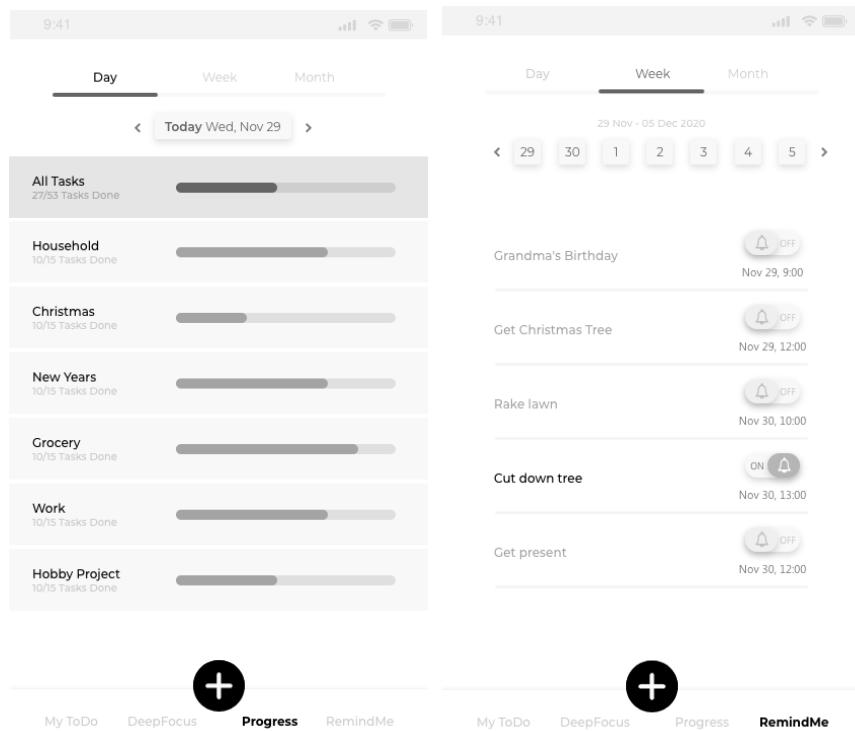


5.5 Second Low Fidelity Prototype Screenshots

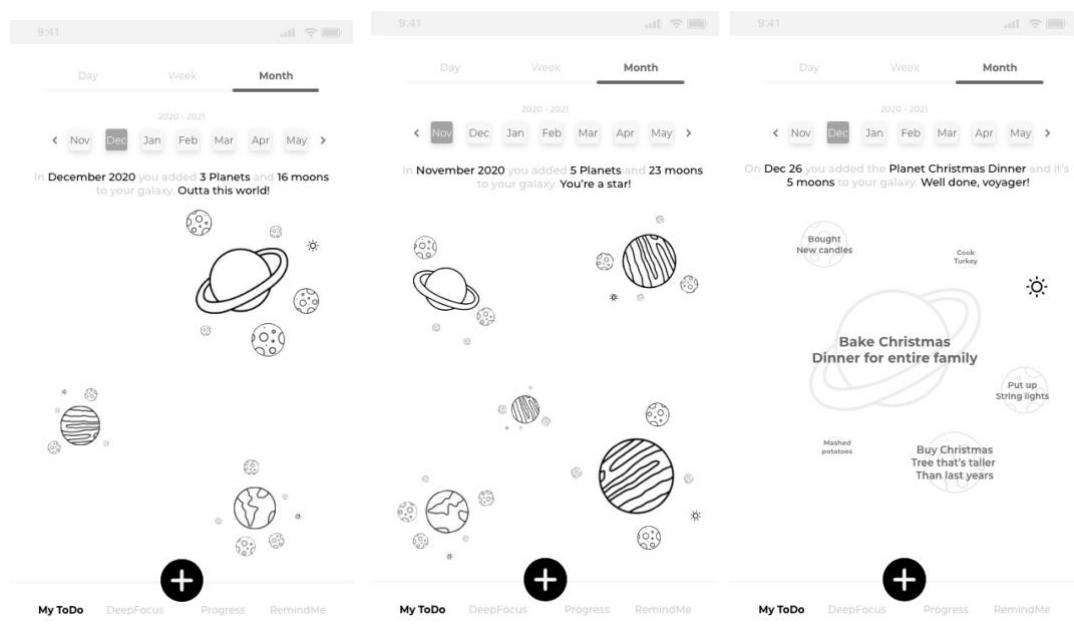


5.6 Third Low Fidelity Prototype Screenshots





5.7 Final Low Fidelity Prototype Screenshots

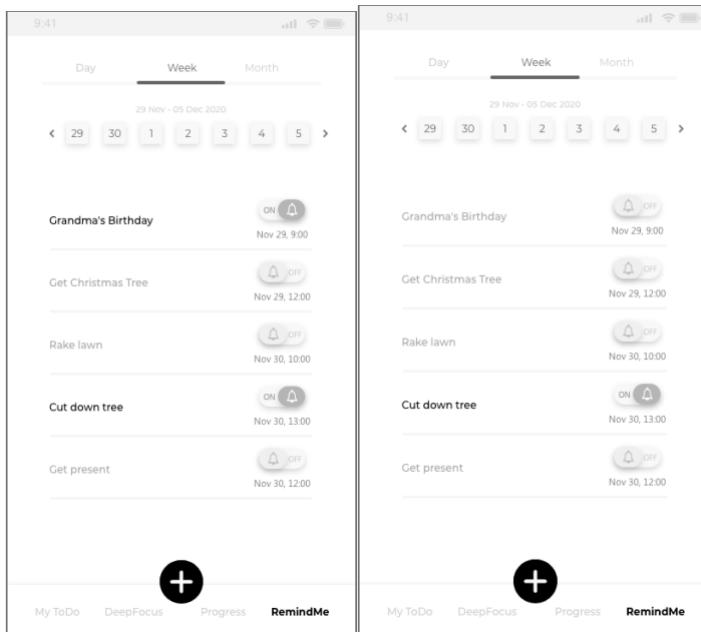
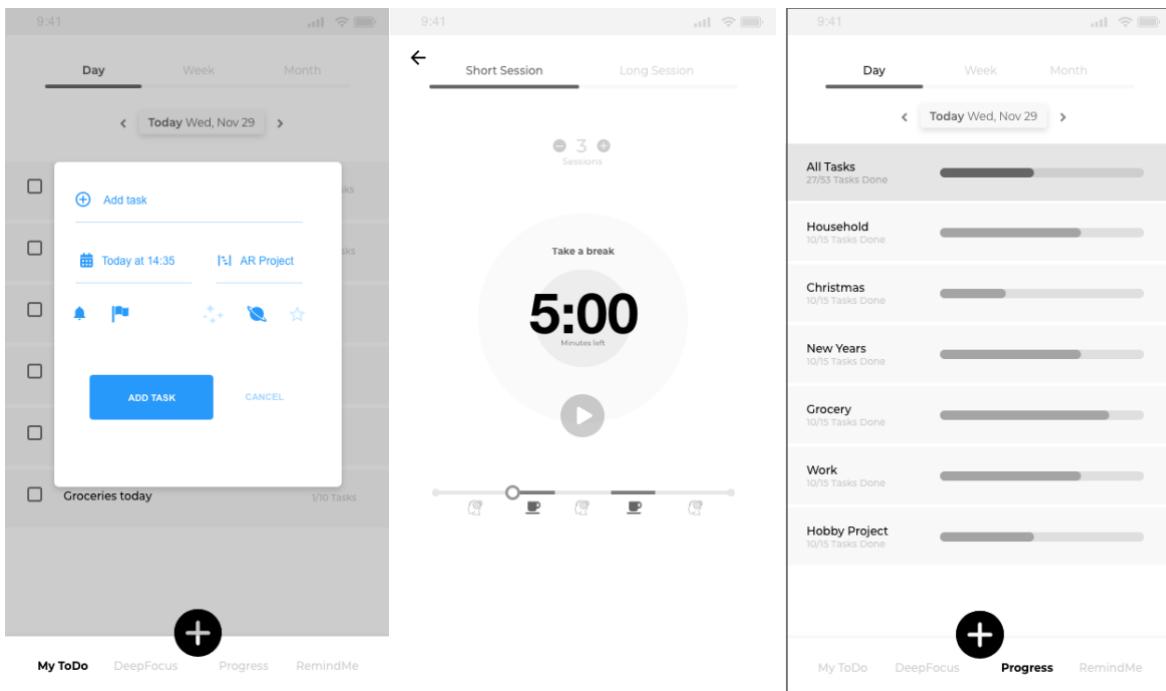


The screenshots show a mobile application interface with three tabs at the bottom: My ToDo, DeepFocus, Progress, and RemindMe. The central column shows a reminder message: "Houston, we have a problem! You've added no Galaxies for the month of January".

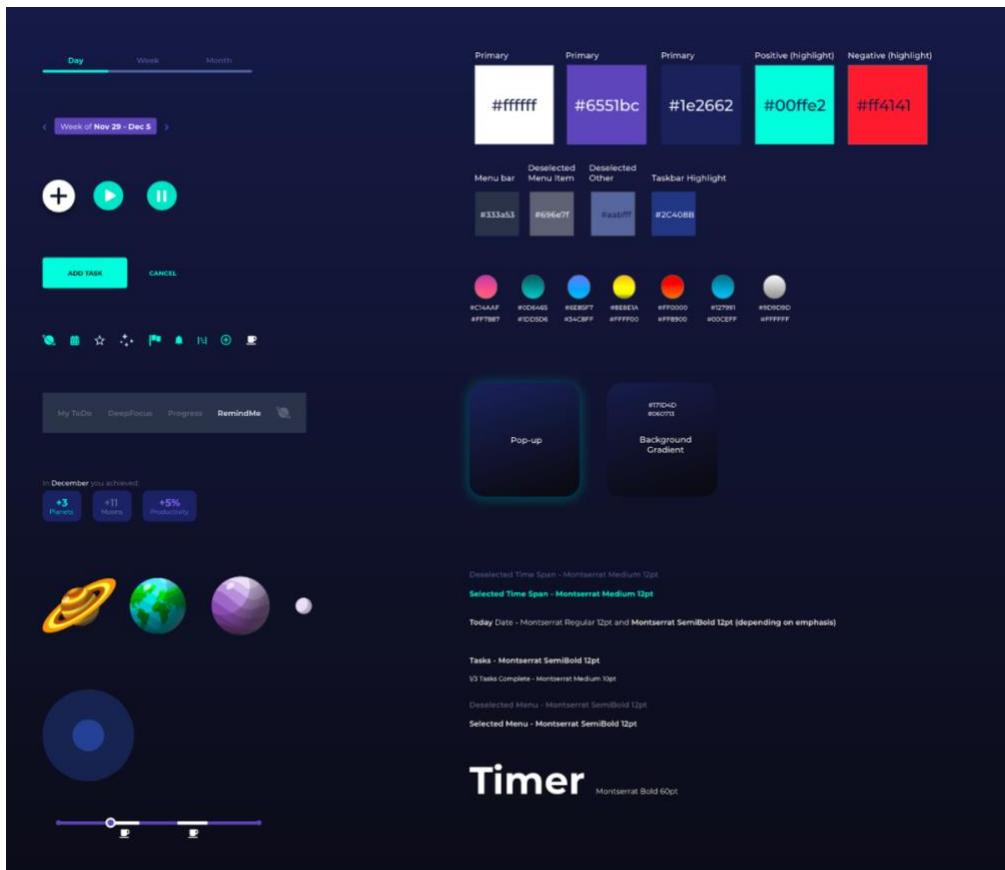
Category	Description	Status
Household Chores	Planet Project Meeting (5 moons)	3/3 Tasks
Project meeting		2/5 Tasks
Meeting with Mark		
AR/VR meet-up		
Call home		
Groceries today		1/10 Tasks

The screenshots show a mobile application interface with three tabs at the bottom: My ToDo, DeepFocus, Progress, and RemindMe. The central column shows a reminder message: "Houston, we have a problem! You've added no Galaxies for the month of January".

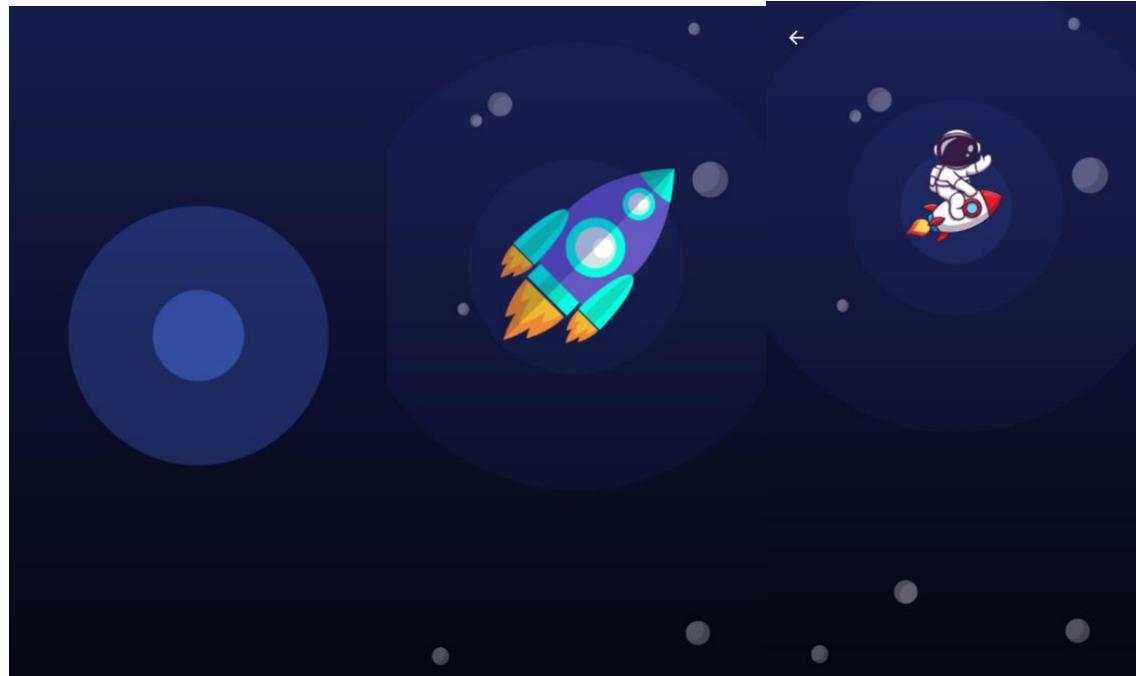
Category	Description	Status
Household Chores	Make bed, Fold laundry, Empty dishwasher	3/3 Tasks
Project meeting		2/5 Tasks
Meeting with Mark		
AR/VR meet-up		
Call home		
Groceries Today		1/10 Tasks

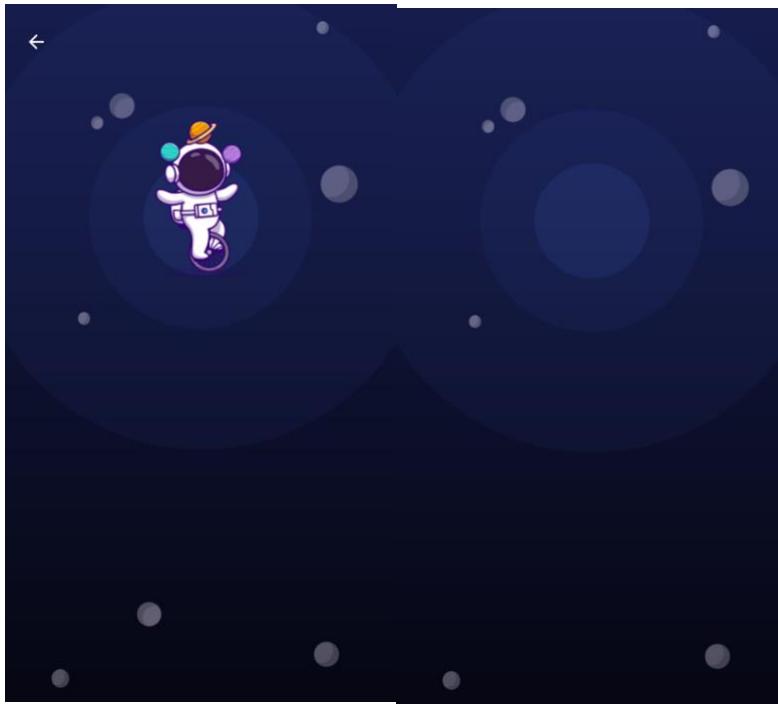


5.8 Moodboard



5.9 Visual Assets





5.10 Ionic framework

ion-checkbox

Checkboxes allow the selection of multiple options from a set of options. They appear as checked (clicked) when activated. Clicking on a checkbox will toggle the `checked` property. They can also be checked programmatically by setting the `checked` property.

Usage

```
import React, { useState } from 'react';
import { IonContent, IonHeader, IonPage, IonTitle, IonToolbar, IonCheckbox } from '@ionic/react';

const checkboxList = [
  { val: 'Pepperoni', isChecked: true },
  { val: 'Mushroom', isChecked: false },
  { val: 'Mustard', isChecked: false }
];

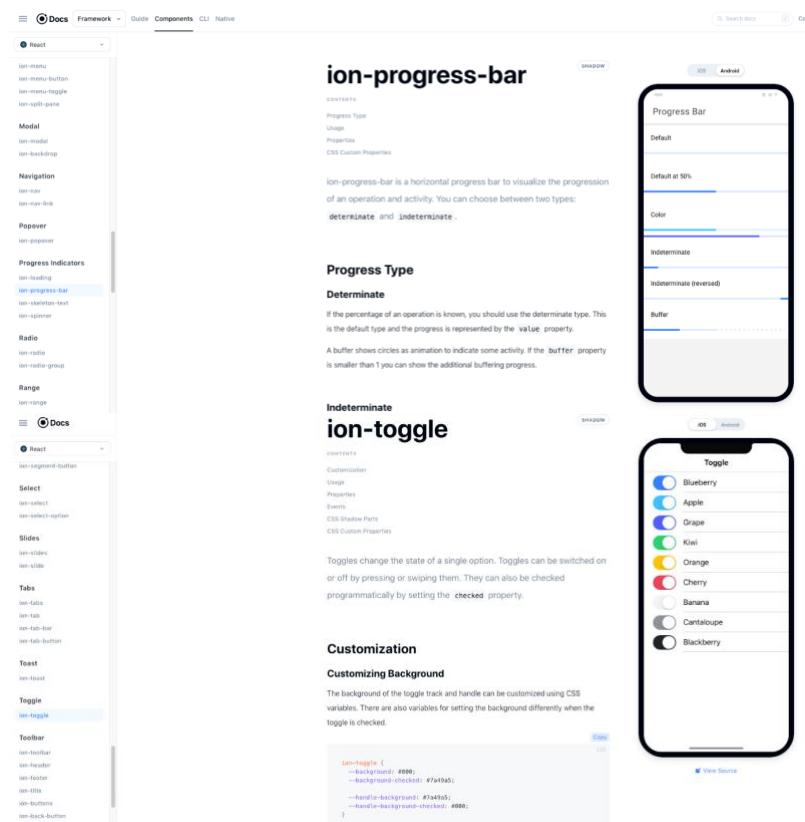
export const CheckboxExamples: React.FC = () => {
  const [checked, setChecked] = useState(false);

  return (
    <IonPage>
      <IonHeader>
        <IonTitle>Characters</IonTitle>
      </IonHeader>
      <IonContent>
        <IonList>
          {checkboxList.map(item => (
            <IonItem>
              <IonLabel>{item.val}</IonLabel>
              <IonCheckbox checked={item.isChecked} onIonChange={() => setChecked(!item.isChecked)} />
            </IonItem>
          ))}
        </IonList>
      </IonContent>
    </IonPage>
  );
}
```

ion-datetime

Datetimes present a picker interface from the bottom of a page, making it easy for users to select dates and times. The picker displays scrollable columns that can be used to individually select years, months, days, hours and minute values. Datetimes are similar to the native `input` elements of type `datetime-local`, however, Ionic's Datetime component makes it easy to display the date and time in a preferred format, and manage the datetime values.

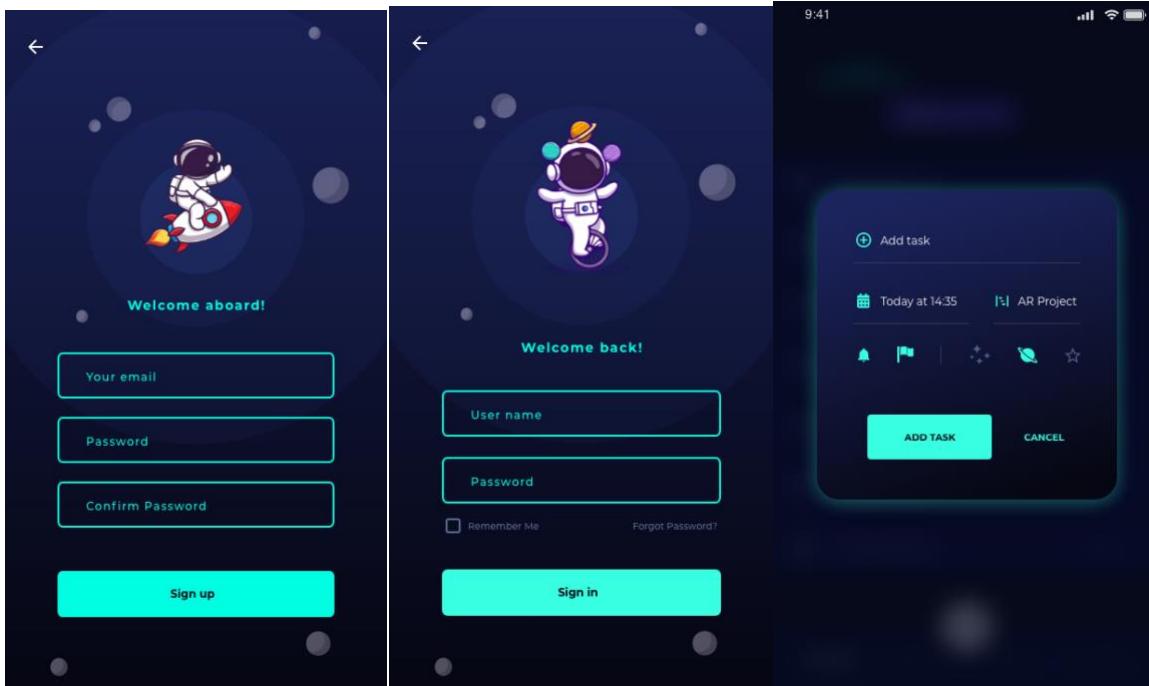
Display and Picker Formats



The screenshot shows two pages from the Ionic UI documentation:

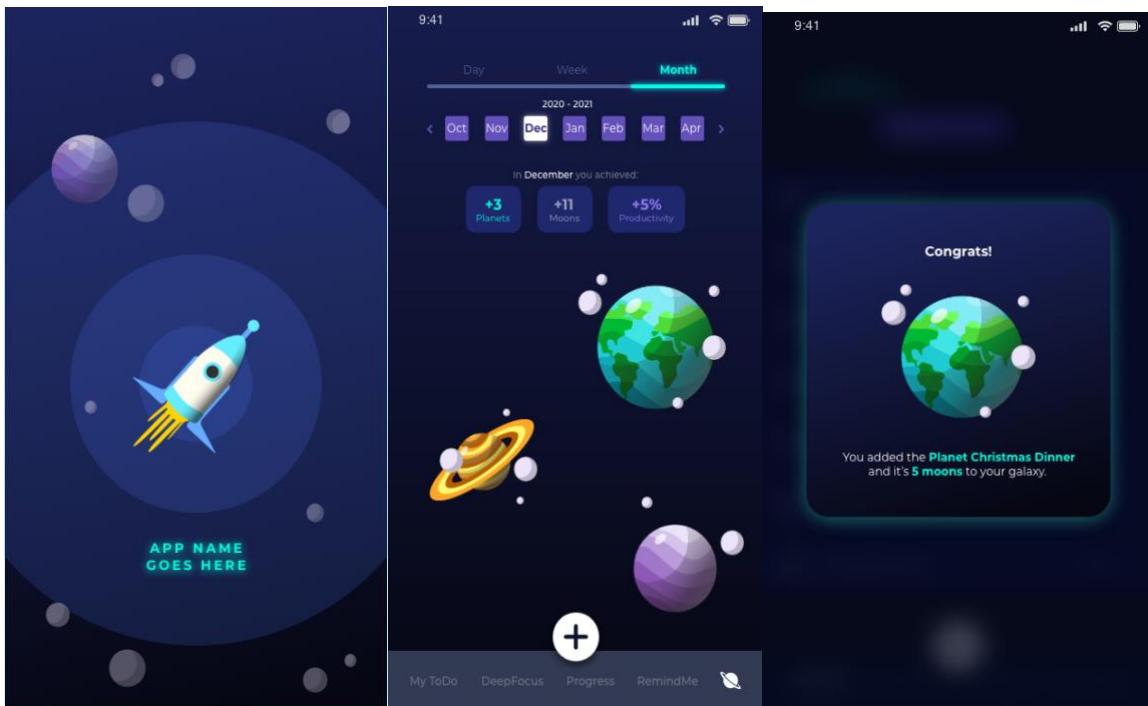
- ion-progress-bar**: This page details the `ion-progress-bar` component. It includes sections for **Contents**, **Progress Type** (with options for **Determinate** and **Indeterminate**), and **Customization**. A screenshot of an Android device shows a progress bar with a value of 50%.
- ion-toggle**: This page details the `ion-toggle` component. It includes sections for **Contents**, **Usage**, **Properties**, and **Customization**. A screenshot of an iPhone shows a list of fruit names each with a toggle switch.

5.11 High Fidelity Prototype Visual Design

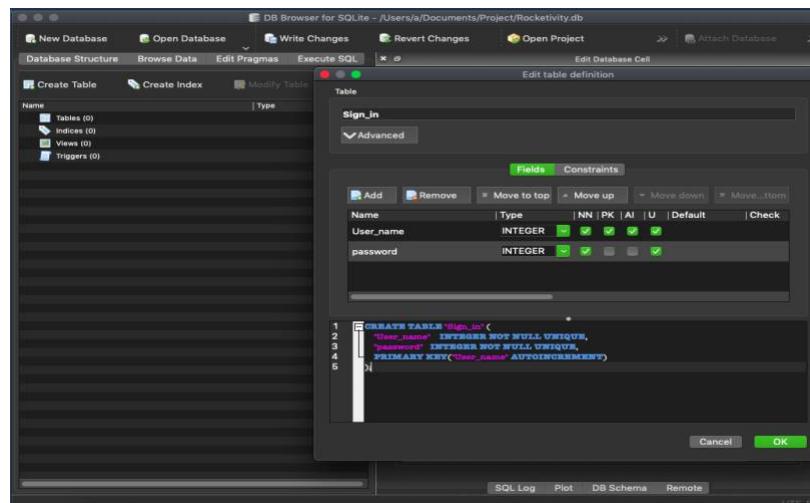


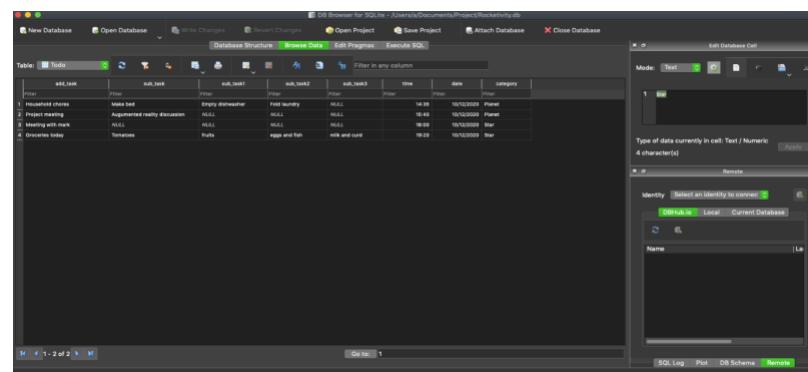
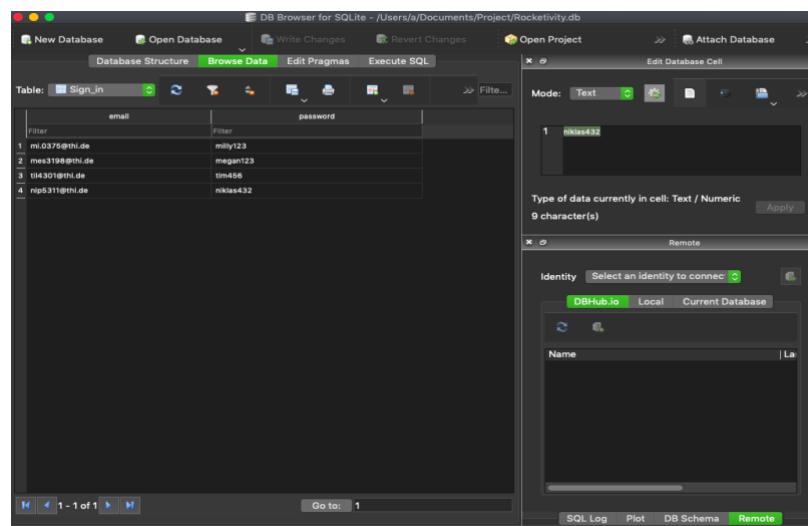
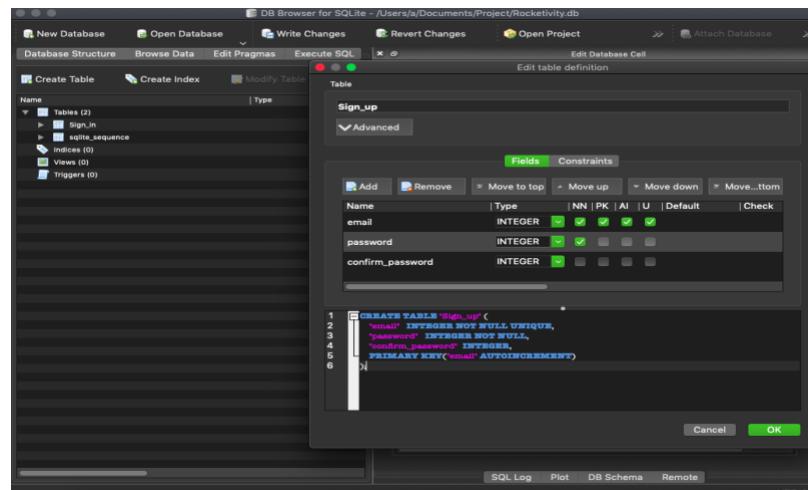
The image displays three screenshots of a mobile productivity application interface:

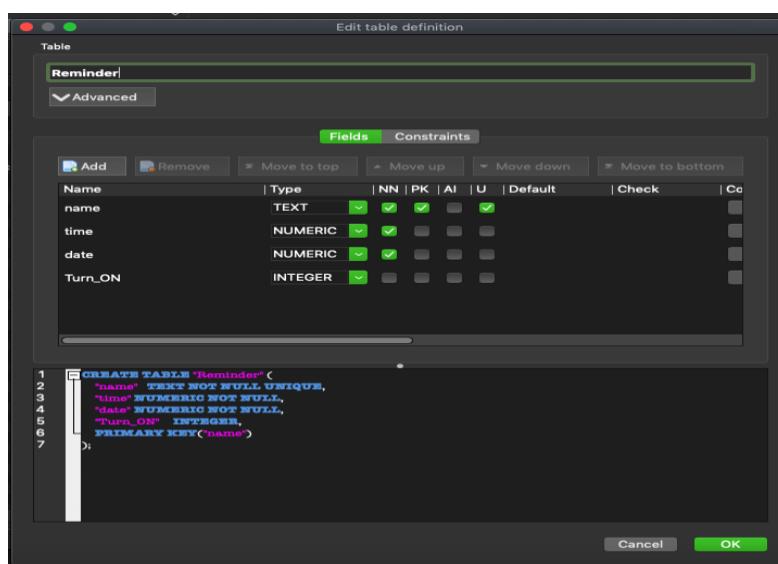
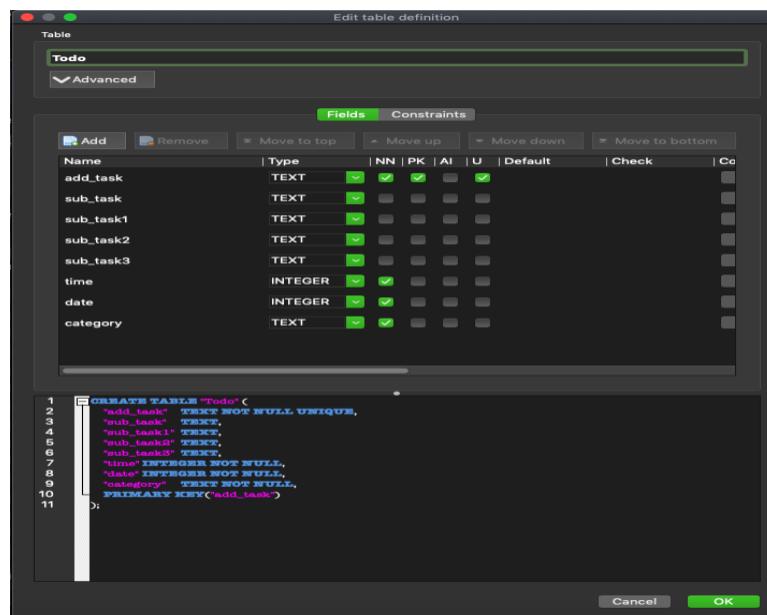
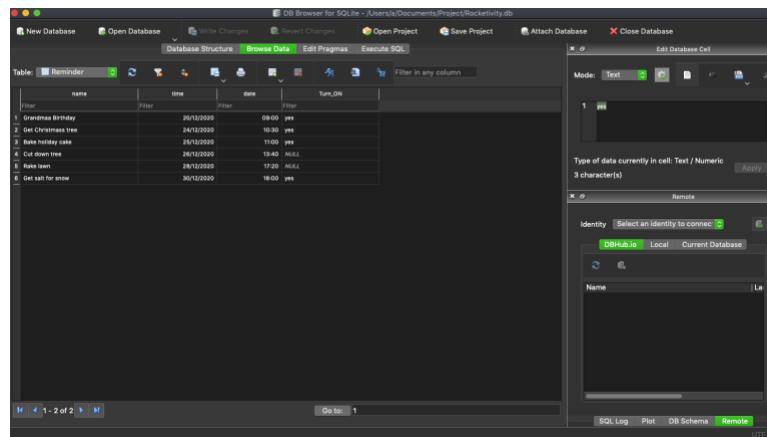
- Screenshot 1 (Top Left):** Shows a task list for "Groceries Today". It includes items like Household Chores (2/3 Tasks), Project meeting (2/5 Tasks), Meeting with Mark (5/6 Tasks), AR/VR meet-up (2/4 Tasks), Call home (5/9 Tasks), and Groceries Today (1/10 Tasks). Each item has a checkbox, a brief description, and a progress bar.
- Screenshot 2 (Top Middle):** Shows a task list for "Groceries today" with items: Household Chores (1/3 Tasks), Project meeting (1/3 Tasks), Meeting with Mark (1/3 Tasks), AR/VR meet-up (1/3 Tasks), Call home (1/3 Tasks), and Groceries today (1/3 Tasks). It also lists events: Grandma's Birthday (Nov 29, 9:00) and Get Christmas tree (Nov 29, 9:00).
- Screenshot 3 (Top Right):** Shows a task list for "Groceries today" with items: Household Chores (1/3 Tasks), Project meeting (1/3 Tasks), Meeting with Mark (1/3 Tasks), AR/VR meet-up (1/3 Tasks), Call home (1/3 Tasks), and Groceries today (1/3 Tasks). It also lists events: Grandma's Birthday (Nov 29, 9:00), Get Christmas tree (Nov 29, 9:00), Bake holiday cake (Nov 30, 9:00), Cut down tree (Dec 02, 9:00), Buy a present for Joe (Dec 03, 9:00), Rake lawn (Dec 04, 9:00), and Get salt for snow (Dec 05, 9:00). Each event has a toggle switch labeled "On" or "Off".
- Screenshot 4 (Bottom Left):** Shows a progress summary for the week of Nov 29 - Dec 5. It lists categories: All Tasks (27/53 Tasks Done), Household (10/15 Tasks Done), Christmas (10/15 Tasks Done), New Years (10/15 Tasks Done), Grocery (10/15 Tasks Done), Work (10/15 Tasks Done), and Hobby Project (10/15 Tasks Done). Each category has a progress bar indicating completion.
- Screenshot 5 (Bottom Middle):** Shows a DeepFocus session interface. It features two circular timers: one for "Break time" set to 5:00 minutes left, and another for "Paused" set to 5:00 minutes left. Below the timers are two coffee cup icons and a horizontal timeline with arrows.
- Screenshot 6 (Bottom Right):** Shows a DeepFocus session interface similar to Screenshot 5, but with a different layout. It features two circular timers: one for "Break time" set to 5:00 minutes left, and another for "Paused" set to 5:00 minutes left. Below the timers are two coffee cup icons and a horizontal timeline with arrows.



5.12 SQLite Database







5.13 phpMyAdmin Database

The screenshot shows the 'Export' page of phpMyAdmin. The left sidebar lists databases: New, information_schema, mysql, performance_schema, phpmyadmin, Rocketivity (which is expanded to show New, Reminder, Sign_up, Todo), and test. The main area is titled 'Exporting tables from "Rocketivity" database'. It includes sections for 'Export templates', 'Existing templates', 'Export method' (set to 'Quick - display only the minimal options'), and 'Format' (set to 'SQL'). A 'Go' button is at the bottom right.

The screenshot shows the 'Structure' page for the 'Rocketivity' database. The left sidebar shows the same database structure as the previous screenshot. The main area displays a table structure for 'Sign_up' with columns: id (Primary Key, Auto Increment), email (Type: varchar(100)), and password (Type: varchar(100)). Below the table, there are buttons for 'Create table' and 'Console'.

The screenshot shows the 'Browse' page for the 'Sign_up' table in the 'Rocketivity' database. The left sidebar shows the database structure. The main area shows the results of the query 'SELECT * FROM `Sign_up`' with three rows of data. Below the results, there are buttons for 'Edit', 'Copy', 'Delete', and 'Import'. At the bottom, there is a 'Query results operations' section with buttons for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'.

The screenshot shows the phpMyAdmin interface for the 'Sign_up' table in the 'Rocketivity' database. The table has two columns: 'email' (Type: varchar(50), Collation: utf8mb4_general_ci) and 'password' (Type: varchar(20), Collation: utf8mb4_general_ci). The 'email' column is set as Primary and Unique. There is one index named 'email' on the 'email' column. A note at the bottom states: "No partitioning defined!"

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	email	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
2	password	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More

The screenshot shows the phpMyAdmin interface for the 'Todo' table in the 'Rocketivity' database. The table contains four rows of data:

add_task	sub_task1	sub_task2	sub_task3	sub_task4	time	date	category
Household chores	Make bed	Empty Dishwasher	Fold laundry		14:35	2021-01-14	Planet
Project meeting	AR discussion	Blender model design			15:40	2021-01-14	Planet
Meeting with mark					18:00	2021-01-14	Star
Groceries today	Tomatoes	Fruits	eggs and fish	milk and curd	19:20	2021-01-14	Star

localhost/phpmyadmin/tb_structure.php?db=Rocketivity&table=Todo

Table structure

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	add_task	varchar(50)	utf8mb4_general_ci	No	None				Change Drop More
2	sub_task1	varchar(50)	utf8mb4_general_ci	No	None				Change Drop More
3	sub_task2	varchar(50)	utf8mb4_general_ci	No	None				Change Drop More
4	sub_task3	varchar(50)	utf8mb4_general_ci	No	None				Change Drop More
5	sub_task4	varchar(50)	utf8mb4_general_ci	No	None				Change Drop More
6	time	varchar(10)	utf8mb4_general_ci	No	None				Change Drop More
7	date	date		No	None				Change Drop More
8	category	varchar(10)	utf8mb4_general_ci	No	None				Change Drop More

[Check all](#) [With selected:](#) [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#) [Fulltext](#) [Add to central columns](#)

[Remove from central columns](#)

[Print](#) [Propose table structure](#) [Track table](#) [Move columns](#) [Normalize](#)

[Add](#) column(s) [after category](#) [Go](#)

Indexes

No index defined!

Create an index on columns [Go](#)

[Console](#)

localhost/phpmyadmin/sql.php?server=1&db=Rocketivity&table=Reminder&pos=0

Structure

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 4 (5 total, Query took 0.0010 seconds.)

```
SELECT * FROM `Reminder`
```

[Profiling](#) [Edit inline](#) [Edit](#) [Explain SQL](#) [Create PHP code](#) [Refresh](#)

Show all | Number of rows: Filter rows: Search this table

name	time	date	turn_on
Grandmaa Birthday	09:00	2021-01-21	1
Bake Birthday cake	10:30	2021-01-14	1
Cut down tree	14:35	2021-01-26	0
Rake lawn	15:40	2021-01-20	0
Get salt for snow	18:00	2020-12-30	1

Show all | Number of rows: Filter rows: Search this table

Query results operations

[Print](#) [Copy to clipboard](#) [Export](#) [Display chart](#) [Create view](#)

Bookmark this SQL query

Label: Let every user access this bookmark

[Console](#)

The screenshot shows the 'Table structure' tab for the 'Reminder' table in the 'Rocketivity' database. The table has four columns: 'name' (varchar(50)), 'time' (varchar(10)), 'date' (date), and 'turn_on' (int(2)). The 'turn_on' column is highlighted with a red border. Below the table structure, there is a section for adding columns, which currently shows 'Add 1 column(s) after turn_on'. The 'Indexes' and 'Partitions' sections both display a warning message: 'No index defined!' and 'No partitioning defined!' respectively.

The screenshot shows the 'Databases' page in phpMyAdmin. It lists all databases on the server: 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'Rocketivity', and 'test'. A new database, 'utf8mb4_general_ci', is being created. The 'Action' column for each database includes a link labeled 'Check privileges'. A note at the bottom states: 'Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.' There is also an option to enable statistics.

6. Literature

- **The Basics of User Experience Design** (accessed on 14/10/2020)
<https://www.interaction-design.org/literature/article/introduction-to-the-essential-ideation-techniques-which-are-the-heart-of-design-thinking>
- **Design Kit** (accessed on 14/10/2020)
<https://www.designkit.org/methods>
- **ReactJS**
<https://reactjs.org/>
Basic Tutorial: <https://reactjs.org/tutorial/tutorial.html> (accessed on 12/11/2020)
- **Ionic**
<https://ionicframework.com/>
 - Ionic with React: <https://ionicframework.com/react> (accessed on 12/11/2020)
 - **UI Components:** <https://ionicframework.com/docs/components>
Capacitor: <https://capacitorjs.com/>
- **Sass (SCSS)**
<https://sass-lang.com> (accessed on 12/11/2020)
- **Microsoft Visual Studio Code (VS Code)**
<https://code.visualstudio.com/Download>