CONESTOGA COLLEGE

SCHOOL OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY
MOBILE SOLUTIONS DEVELOPMENT PROGRAM

MUCHOS

ALL IN ONE, IOS DICTIONARY APPLICATION

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1. Inception Phase

1.1. Project Charter

1.1.1. Business Purpose

The purpose of the project is to create an iOS application that will allow users to use many dictionaries at the same time without the need to download multiple apps on their devices. The proposed application will have a visually attractive, accessible and intuitively understandable design. Our primary focus is to create a solution that users will enjoy using daily while improving their English language skills.

1.1.2. Project Roles/Responsibilities

Full project roles distribution can be found under the “Team Charter” section. General distribution is as follows:

1. Oleh Kosenko – Team Leadership, System Design, Development
2. Hanan Younes – Project Planning, UI Design, Development, Documentation, Testing
3. Shubam Rangawar – Project Record-Keeping, Development, Documentation, Testing

1.1.3. Features List

- Searching for word definitions from the most trusted sources
- Selecting between supported dictionary sources
- Integrated thesaurus – synonyms and antonyms
- Creating a personal dictionary by adding and removing favourite words
- Playing flashcards game with words from the personal dictionary
- Word of the Day

1.1.4. System Objectives

- All functions that are not related to networking should be performed in less than 0.5 seconds (e.g. add a word to the dictionary, generate flashcards game, etc.)

1.1.5. Project Critical Success Factors

- Active planning
- Strictly following deadlines
- Teamwork
- Help and guidance from our advisor.

1.1.6. Event Table

Event	Trigger	Source	Use Case #	Use Case	Response	Destination
The user wants to find a definition of a word.	Word Inquiry	Customer	UC01	Fetch definitions for the entered word	Definitions of the word are displayed	Customer
The user wants to look up the definition for the entered word in another dictionary	Vocabulary Change for entered word Inquiry	Customer	UC02	Fetch definitions for the entered word	Definitions of the word are displayed	Customer
The user wants to add a word to his/her personal dictionary	Dictionary word adding inquiry	Customer	UC03	Save word along with definitions to the dictionary	Word is saved	Customer
The user wants to remove a word from the dictionary	Word Removal Inquiry	Customer	UC04	Remove a word from the dictionary	Word is removed	Customer
Time to update Word of the Day	End of day	System	UC05	Fetch word of the day	Word is fetched	System
The user wants to use flashcards from words in the dictionary to learn words	Flashcards game inquiry	Customer	UC06	Generate flashcards game	Flashcards game is generated and presented to the user	Customer

1.1.7. Preliminary Technical Architecture

- System Architecture: The Composable Architecture
- Programming Languages: Swift, Objective-C
- UI Frameworks: SwiftUI with rare usage of UIKit
- Databases: SQLite through CoreData, UserDefaults (represented as simple XML)
- Testing: XCTest
- Other tools: Reactive Programming using Combine Framework

1.2. Web Search and Rationale

Keywords: Dictionary, mobile application, iOS, Swift

1.2.1. Abstract

As English learners and international students in Canada, we have personal experience in using different dictionary applications at the same time to improve our English language skills and enjoy the various features each dictionary offers to their users. This caused us to move back and forth between multiple applications with no flexible way to compare word definitions or other standard dictionary services simultaneously. Our own frustration proved the need to create a better and unified solution that would make the search for word definitions across multiple dictionaries easier and rewarding. We brainstormed as a team to discuss our proposed solution and to gather business requirements. We decided to develop an iOS application that will act as a shared interface for English learners to enjoy standard dictionary related features offered by some well-known dictionaries without installing multiple applications or wasting time switching from one app to the other. This would result in saving users' time and effort to focus on actual learning rather than choosing the dictionary that best fits their needs. There is potential for commercializing the application as we intend to publish it on the App Store and include in-app purchases.

1.2.2. Business/Technological Purpose

Muchos, which means many in Italian, is a dictionary application for iPhones that incorporates words definitions, spelling, pronunciation, grammar, word families, collocations and more from many available and widely used dictionaries. This application will assist international students in Canada and English learners everywhere in improving their English language skills by taking advantage of multiple known dictionaries at one place using their ready to use APIs. Users can build their vocabulary list by choosing/swiping between three or four sources within Muchos without downloading multiple apps.

1.2.3. Our Contribution

Muchos is not just another iOS dictionary application; it is more like a new experience that will take dictionary related services to the next level. The app will integrate data from multiple sources by making use of ready to use APIs provided by a lot of dictionaries. While searching for a particular word definition, pronunciation, word family, etc., users will save their time and effort to

focus more on improving their English abilities in a fun and engaging way. Features include, but are not limited to, the following:

1. Searching for words definitions from the most trusted sources
2. Selecting between supported dictionary sources
3. Integrated thesaurus - synonyms and antonyms
4. Creating a personal dictionary by adding and removing favourite words
5. Playing flashcards game with words from the personal dictionary
6. Word of the Day

1.2.4. Market Analysis [1]

Dictionary applications are a convenient way of learning English as a foreign language and adding more vocabulary every day. There are plenty of great dictionary apps available to download, and they offer a lot of cool and unique features to their users. The only problem here is how to choose the right dictionary! Our proposed entrepreneurial project aims not to create another dictionary application; instead, it combines some widely used dictionaries to form one interface to be used simultaneously within the Muchos app. The majority of the available dictionaries use their own vocabulary database and only show word definitions specific to their data.

On the other hand, our intended application is quite different because it will have access to several data sources to allow users to enjoy various dictionary services provided by many sources. This makes our application innovative because it addresses the problem of choosing a dictionary and unique as there is almost no other dictionary that uses a similar approach. Our market analysis showed that the Dictionary, The Free Dictionary by Farlex [2], partially has a similar workflow because it integrates data from three data sources, Webster's dictionary, The American Heritage dictionary, and Roget's Thesaurus. However, searching for a word definition in the app gives no indication or mention of the definition source. On the contrary, Muchos displays data sources in a separate section and offers users the control to switch between supported dictionaries. At the same price point as Dictionary, The Free Dictionary, free with $1.99 in-app purchases.

1.2.5. Competitors: Dictionary, The Free Dictionary by Farlex [2]

1.2.6. Pricing: Muchos is a free application that offers in-app purchases as well.

1.2.7. Conclusion:

1. Muchos is all in one dictionary application that incorporates data from other trusted and widely used dictionaries, including Webster's dictionary, Oxford dictionary, and the Urban dictionary.
2. The application will offer a visually attractive, easy to use and intuitively understandable design to ensure a positive customer experience
3. Muchos will act as an English language reference and vocabulary building tool for English learners and international students in Canada.
4. Using Muchos will save users plenty of time comparing and switching between dictionaries to find what they are looking for

1.3. Team Charter

1.3.1. Team Name: La Squadra

1.3.2. Team Members

- Oleh Kosenko <Okosenko4530@conestogac.on.ca>
- Hanan Younes <Hyounes4560@conestogac.on.ca>
- Shubam Rangawar <srangawar0079@conestogac.on.ca>

1.3.3. Member Roles

The following table lists La Squadra team members and what aspects of the project they are tackling:

Project Management	
Team leadership	Oleh Kosenko
Project planning	Hanan Younes
Project record-keeping	Shubam Rangawar
Analysis, Design and Documentation	
Interacting with clients	NA

Diagramming and documenting client requirements	NA
Diagramming and documenting the overall design	Oleh Kosenko, Hanan Younes, Shubam Rangawar
Technical documentation	Hanan Younes, Shubam Rangawar
Client documentation	NA
Web Development	
Creating web graphics	Oleh Kosenko, Hanan Younes
Web site design	Oleh Kosenko, Hanan Younes
Web page design	Oleh Kosenko, Hanan Younes
Web programming	Oleh Kosenko, Hanan Younes, Shubam Rangawar
Interactive testing	Hanan Younes
Business Layer Development	
Class design	Oleh Kosenko
Business programming	Oleh Kosenko, Hanan Younes, Shubam Rangawar
Technical / lower-level programming	Oleh Kosenko, Hanan Younes, Shubam Rangawar
Unit and integration testing	Hanan Younes
Database Development	
Database design	Oleh Kosenko
SQL/LINQ Development	NA
Other	
Report development	Oleh Kosenko, Hanan Younes, Shubam Rangawar
Installer development	NA

1.3.4. Expectations

- Try to help each other.
- Work together as a team.
- Complete the assigned tasks.
- Attend all the meetings.
- Try to share the work equally.

1.3.5. Consequences

- Delay in completing the assigned tasks.
- Not able to deliver the product on time.

- Delay in one step results in the delay of subsequent steps.

1.3.6. Agreement

Each team member must sign the charter. The Team Charter can be revised at any time during the project with the consent of all team members. See the original team charter for signatures.

Oleh Kosenko Hanan Younes Shubam Rangawar

2. Analysis Phase – Iteration 1

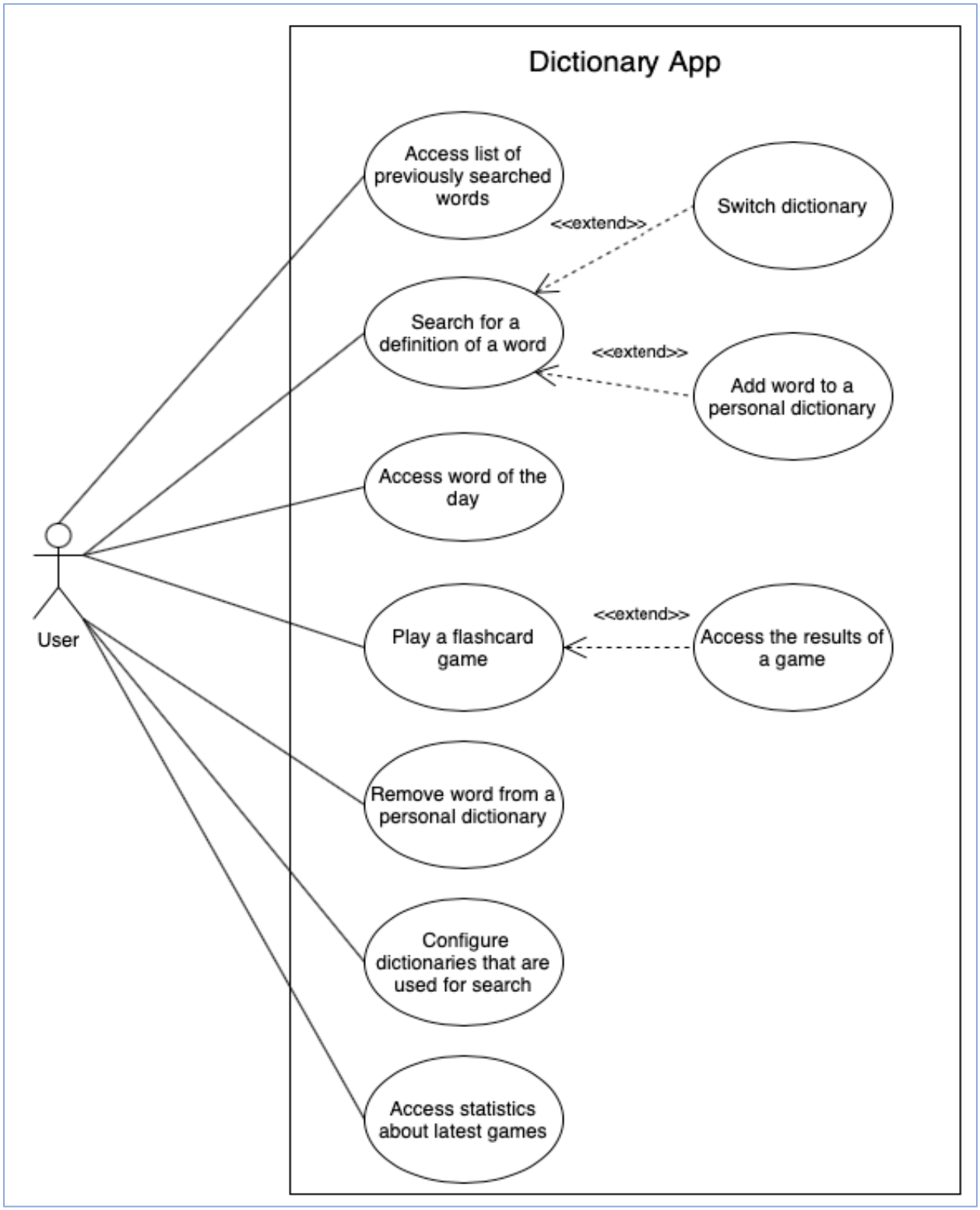
2.1. Agile Iteration Plan

As we move forward in building our proposed solution, we will follow the ***Agile*** methodology principles in our team and task planning. We agreed to follow the ***Kanban*** agile framework favouring team collaboration, self-organization and flexibility over the rigid Waterfall development approach. We divided our project plan into phases/iterations that may overlap, especially during this project's later stages. So, changes are expected as the Iterations continue, and issues arise.

- The first phase is the Inception Phase, mainly about project and team roles' planning and business-related paperwork.
- The Analysis Phase – Iteration 1 focuses on creating a detailed agile plan for the different project iterations and develop use-case, class, sequence, and Statechart diagrams.
- The Design Phase – Iteration 2 mainly will be tackling design related tasks such as Prototyping. However, design and construction usually overlap, which makes sense in software development.
- The Construction Phase – Iteration 3, working on code and testing tasks.
- Transition and Demo Phase, the demo might be virtual, given the current pandemic situation.
- We might add other tasks, including setup of the development environment and bug fixing tasks.

La Squadra team conducts a virtual conference meeting using the **Teams** software Monday of each week after meeting with the project's mentor. Our team's session usually lasts for at least 45 minutes. Besides, each team member communicates their daily progress on the team's What's App group chat (daily stand-ups). We visually track our progress using Jira software - Kanban board, which helps us keep track of all tasks and their current state until they are completed. Our team also uses the Toggl software to record the time taken to finish a particular task from the list. We prepare and communicate our progress to the project advisor every week.

2.2. Use Case Diagram



2.3. Use Case Descriptions

- ### Access List of Previously Searched Words:

Use Case #	01	
Use Case Name	Access the list of words that were previously searched.	
Brief Description	The user wants to look at the list of words that he/she previously searched.	
Triggering Event	User taps on the search field.	
Actors	User.	
Related Use Cases	Search for a definition of a word.	
Stakeholders	User.	
Pre-conditions	○ Users must search for definitions of some words before accessing the list of previously searched words.	
Post-conditions	The system presents the user with a list of previously searched words.	
Flow of Events	Actor	System
	1. User taps on the search text field	1.1 System displays the list of previously searched words below the search field.
Exception Conditions	1. If the user didn't search for any words before accessing the list of previously searched words, then the list is empty.	N/A

- ### Search for a word definition:

Use Case #	02	
Use Case Name	Search for definitions of a specific word.	
Brief Description	The user wants to search for a definition of a specific word.	
Triggering Event	The user taps on the search field	
Actors	User.	
Related Use Cases	Switch Dictionary, Add a word to a personal dictionary.	
Stakeholders	User.	
Pre-conditions	The user has to be on a search screen.	
Post-conditions	The user is now able to see the definitions of the word he/she was looking for.	
Flow of Events	Actor	System
	1. User enters the word to find out its definition.	1. System displays the definitions of the word entered by the user.
Exception Conditions	1. The user must enter a word; the search for a definition can't be done without entering a word.	N/A

- ## Add a Word to the Personal Dictionary:

Use Case #	03	
Use Case Name	Add a word to the user's personal dictionary.	
Brief Description	The user wants to create his/her personal dictionary for quick access to definitions of the desired words.	
Triggering Event	The user taps on a button that saves word to the dictionary	
Actors	User.	
Related Use Cases	Search for a definition of a word.	
Stakeholders	User.	
Pre-conditions	The user has to search for a word that later can be added to the personal dictionary.	
Post-conditions	The user will now be able to see the selected word in their personal dictionary.	
Flow of Events	Actor	System
	1. User searches for definitions of a word 2. User taps on a button that saves a word to the personal dictionary.	1. System adds the selected word to the personal dictionary.
Exception Conditions	1. Users should select a given word to be added to their dictionary. Without choosing any word, this operation is not possible.	N/A

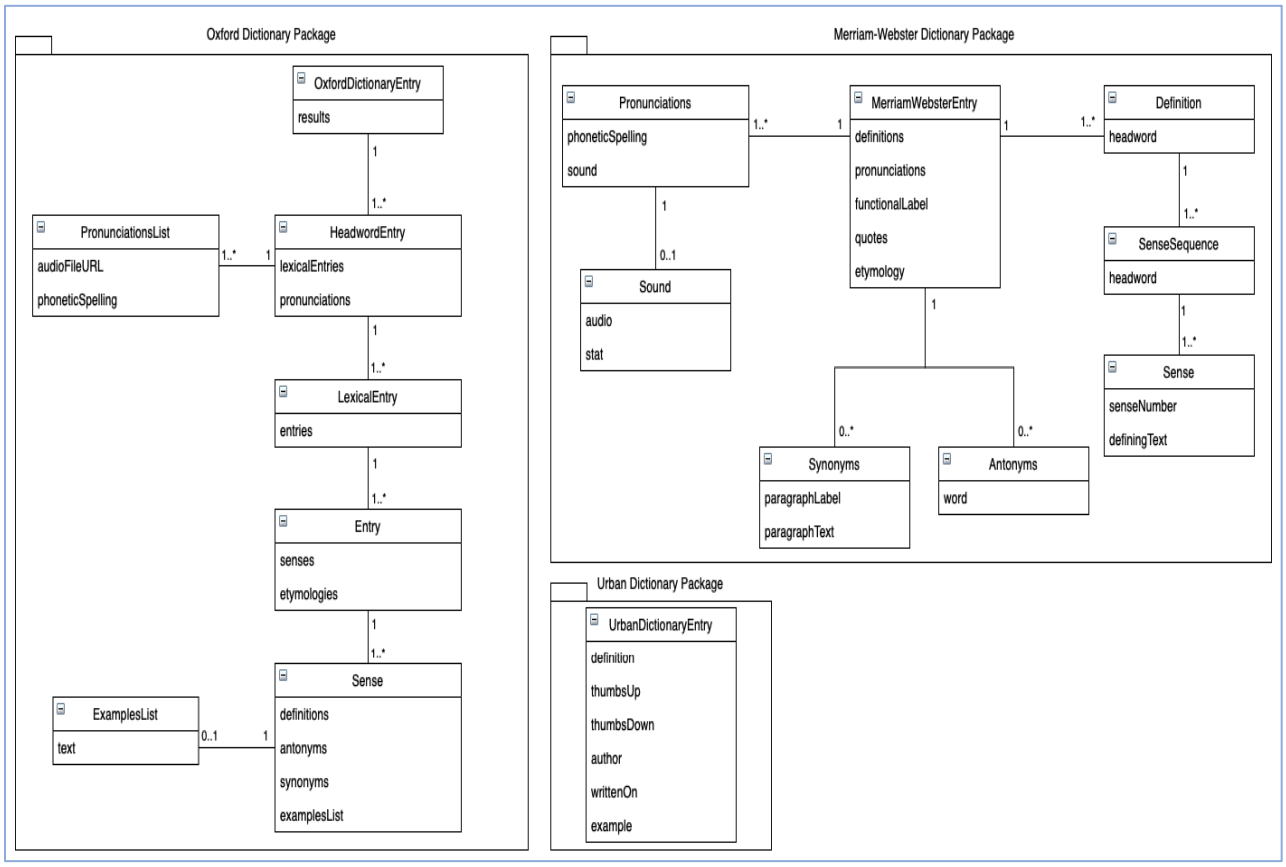
- ## Access Word of the Day:

Use Case #	04	
Use Case Name	Access the word of the day.	
Brief Description	The user wants to learn new words that they do not know	
Triggering Event	The user opens the search screen.	
Actors	User.	
Related Use Cases	Search for a word definition.	
Stakeholders	User.	
Pre-conditions	N/A.	
Post-conditions	The user is presented with the word of the day.	
Flow of Events	Actor	System
	1. User opens the search screen	1. System presents the word of the day to the user.
Exception Conditions	N/A	N/A

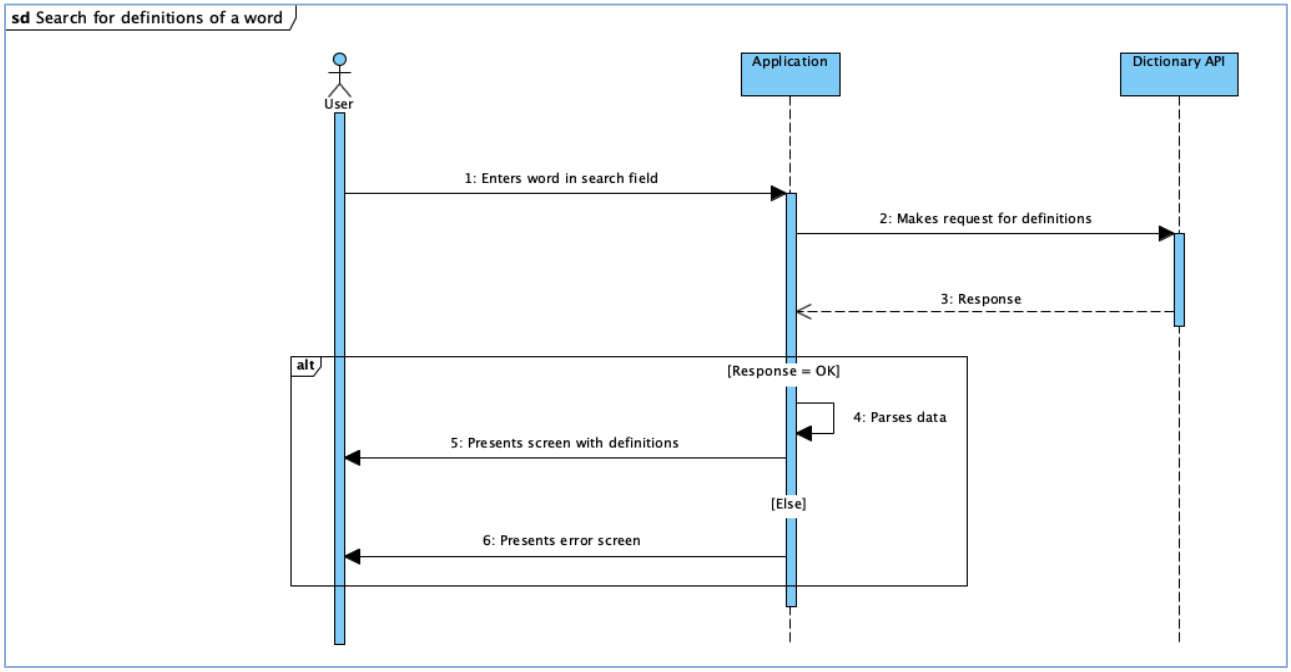
- Play a flashcard game:

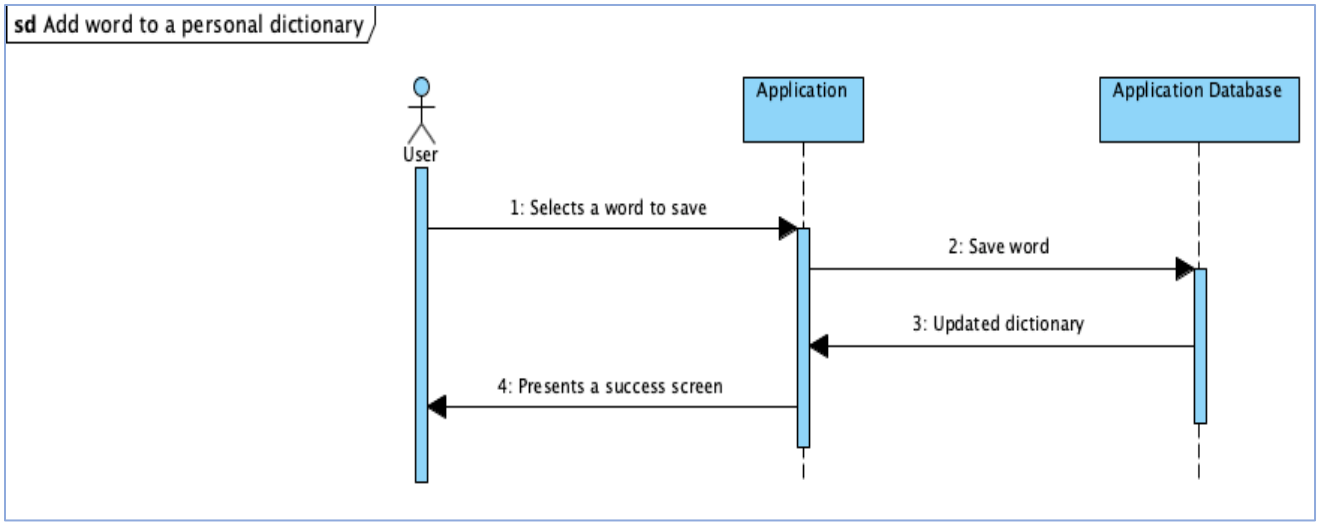
Use Case #	05	
Use Case Name	Play a flashcard game.	
Brief Description	The user wants to check the level of knowledge of words added to their personal dictionary.	
Triggering Event	User taps on the “Start New Game” button.	
Actors	User.	
Related Use Cases	Add a word to a personal dictionary.	
Stakeholders	User.	
Pre-conditions	The user has to open the flashcard game tab.	
Post-conditions	The user is presented with the results of the game.	
Flow of Events	Actor	System
	1. The user opens a game tab. 2. User taps on the “Start New Game” button.	1. System generates a flashcard game from words that the user added to a dictionary. 2. System presents a game to a user.
Exception Conditions	1. Game cannot be played unless there are some words in a user’s personal dictionary.	N/A

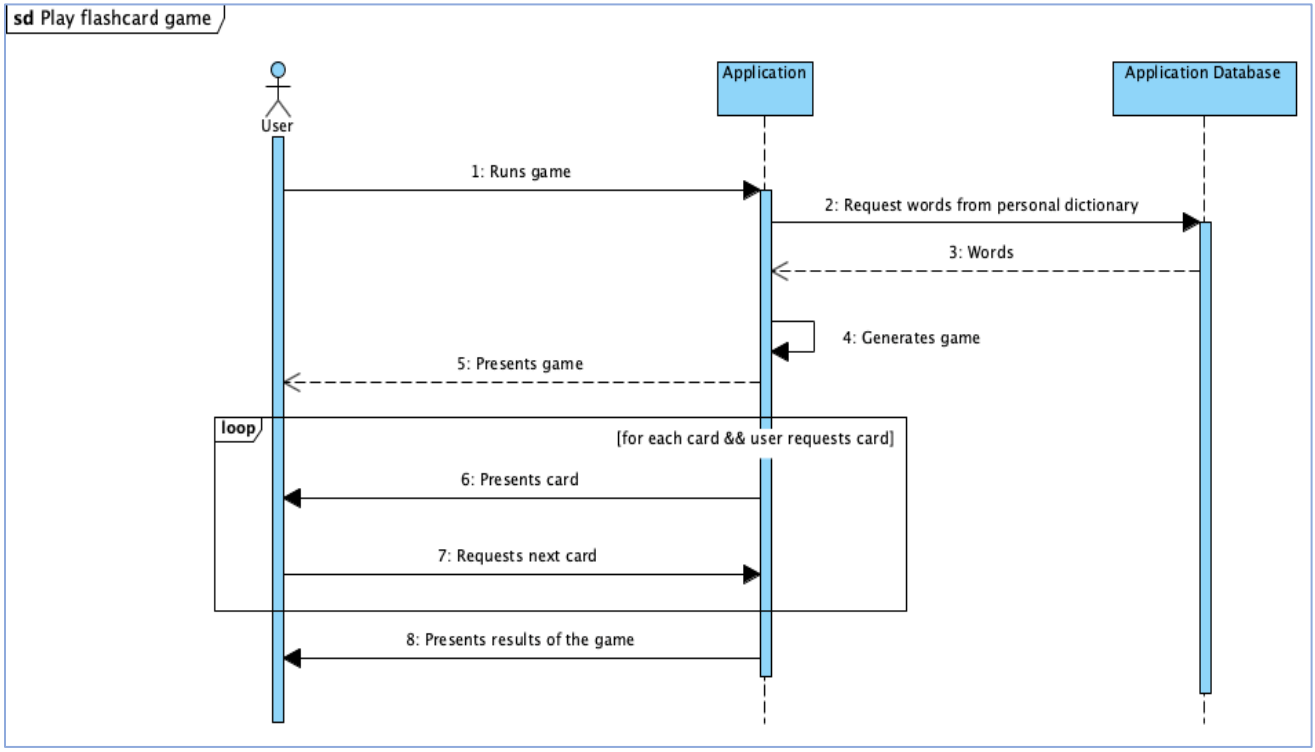
2.4. Analysis level Class Diagram



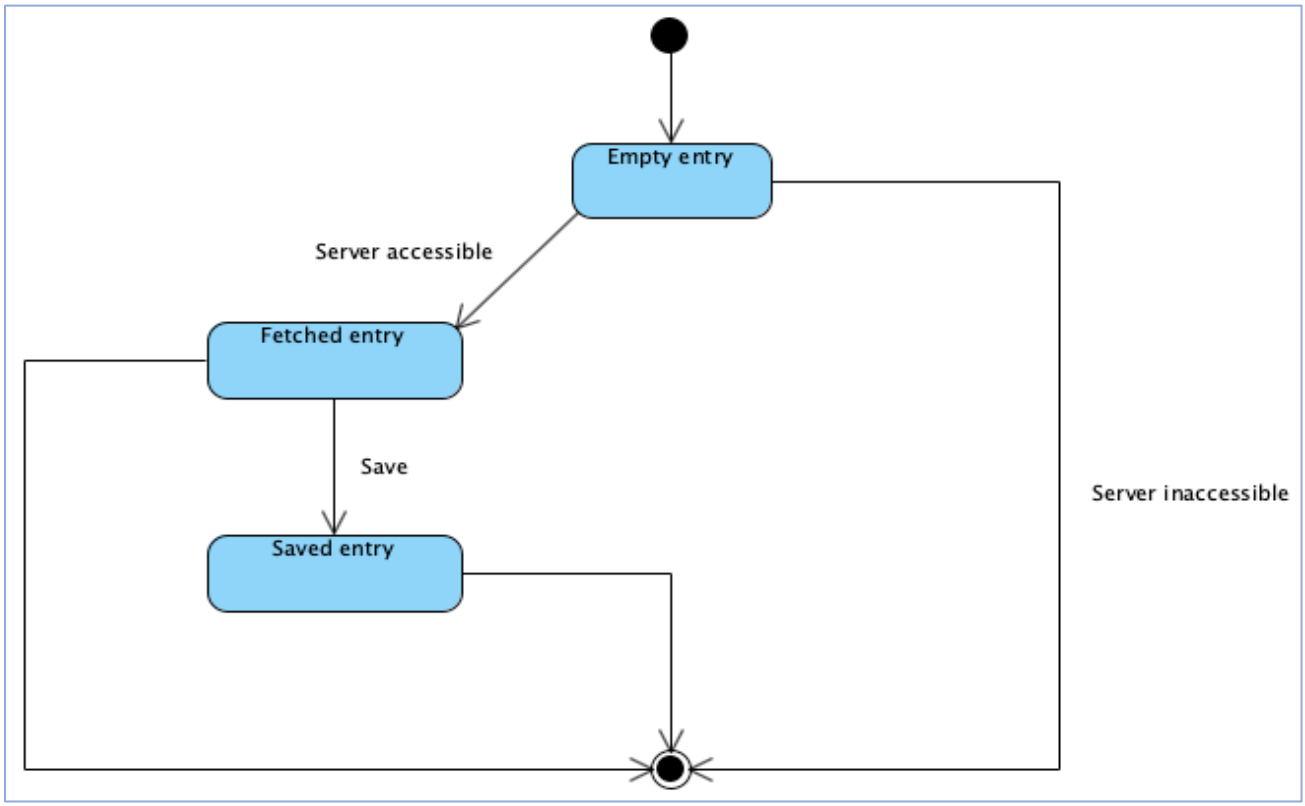
2.5. System Sequence Diagrams




sd Add word to a personal dictionary
User
Application
Application Database
1: Selects a word to save
2: Save word
3: Updated dictionary
4: Presents a success screen

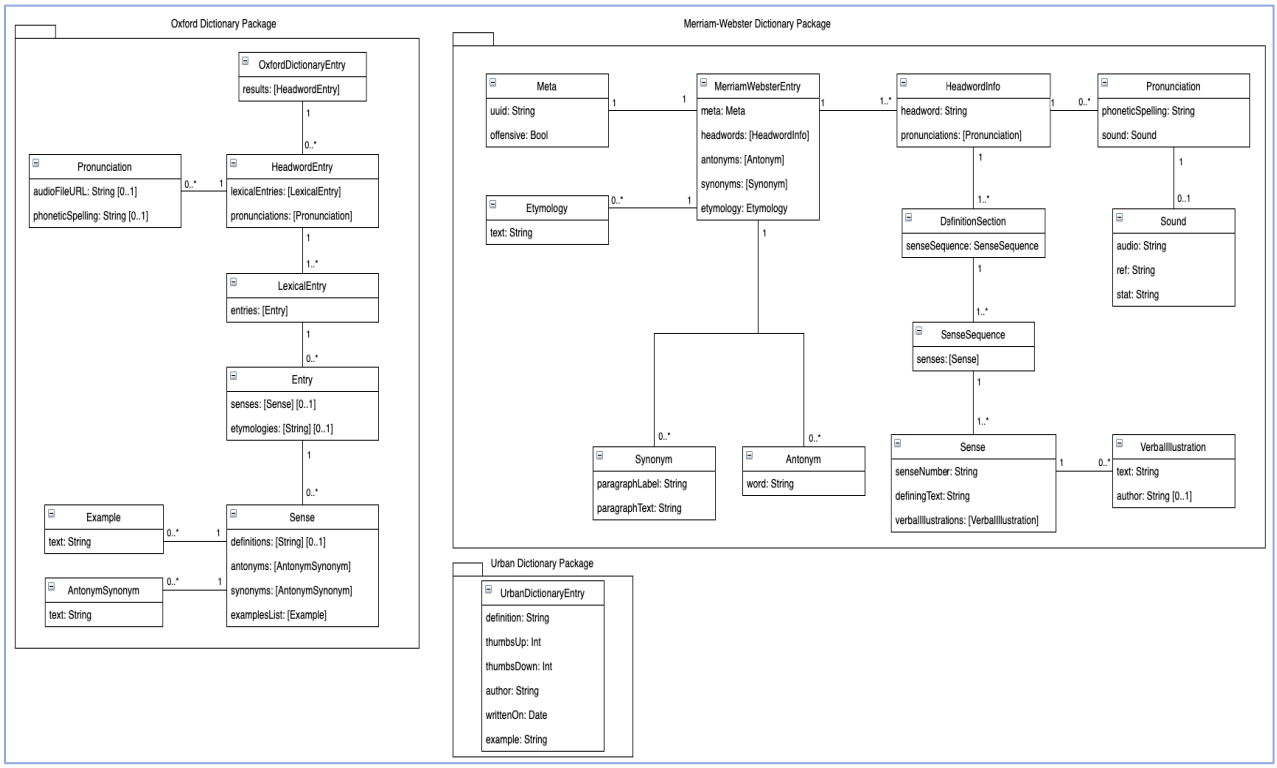

sd Play flashcard game
User
Application
Application Database
1: Runs game
2: Request words from personal dictionary
3: Words
4: Generates game
5: Presents game
loop
[for each card && user requests card]
6: Presents card
7: Requests next card
8: Presents results of the game

2.6. Statechart Diagram: Unified Entry Statechart Diagram

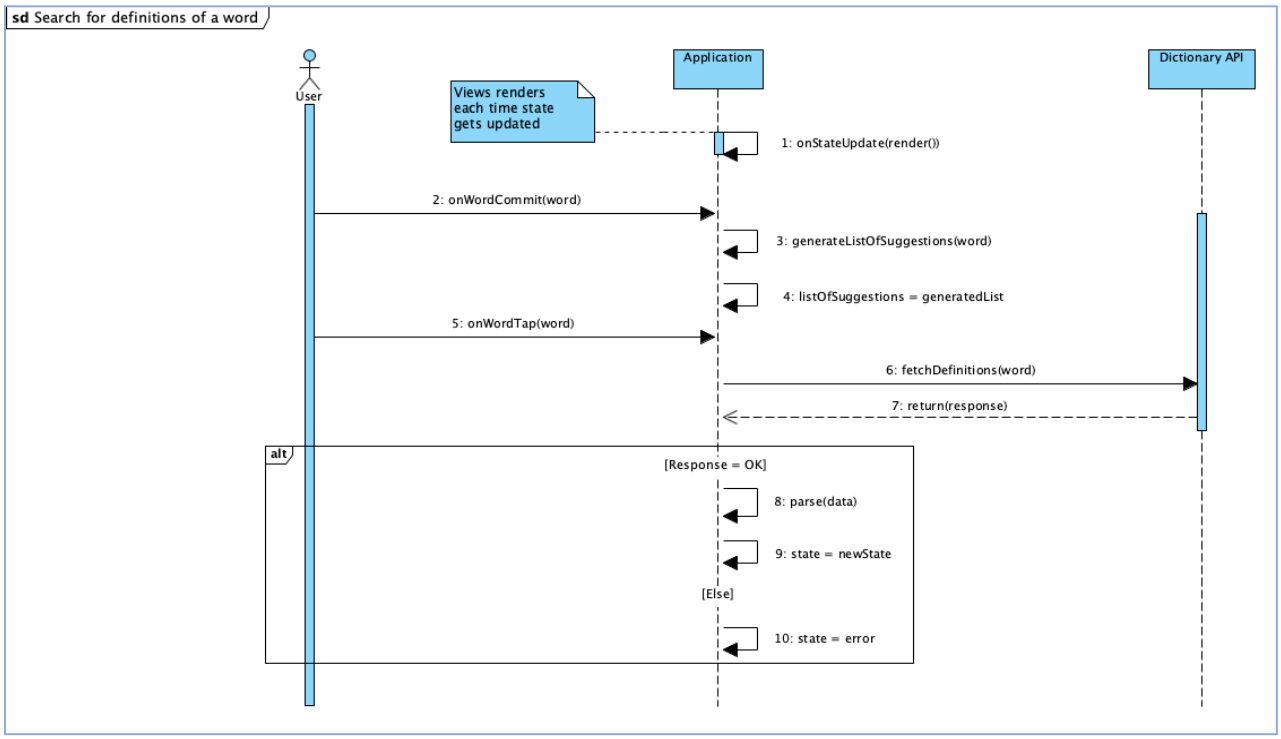


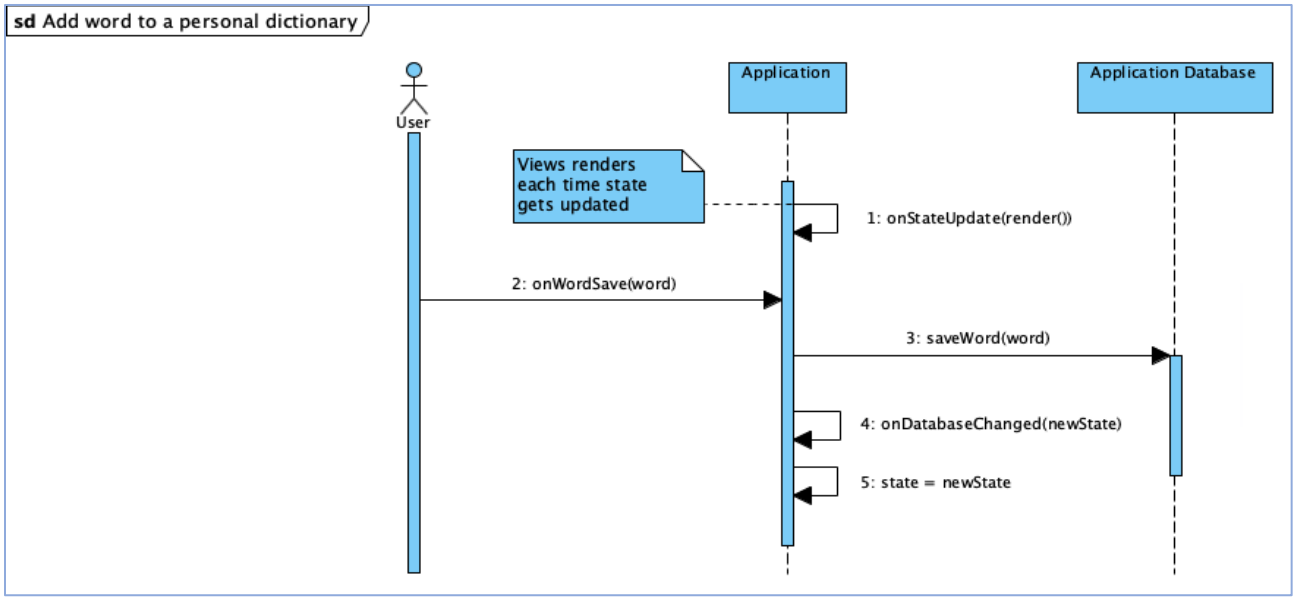
3. Design Phase – Iteration 2

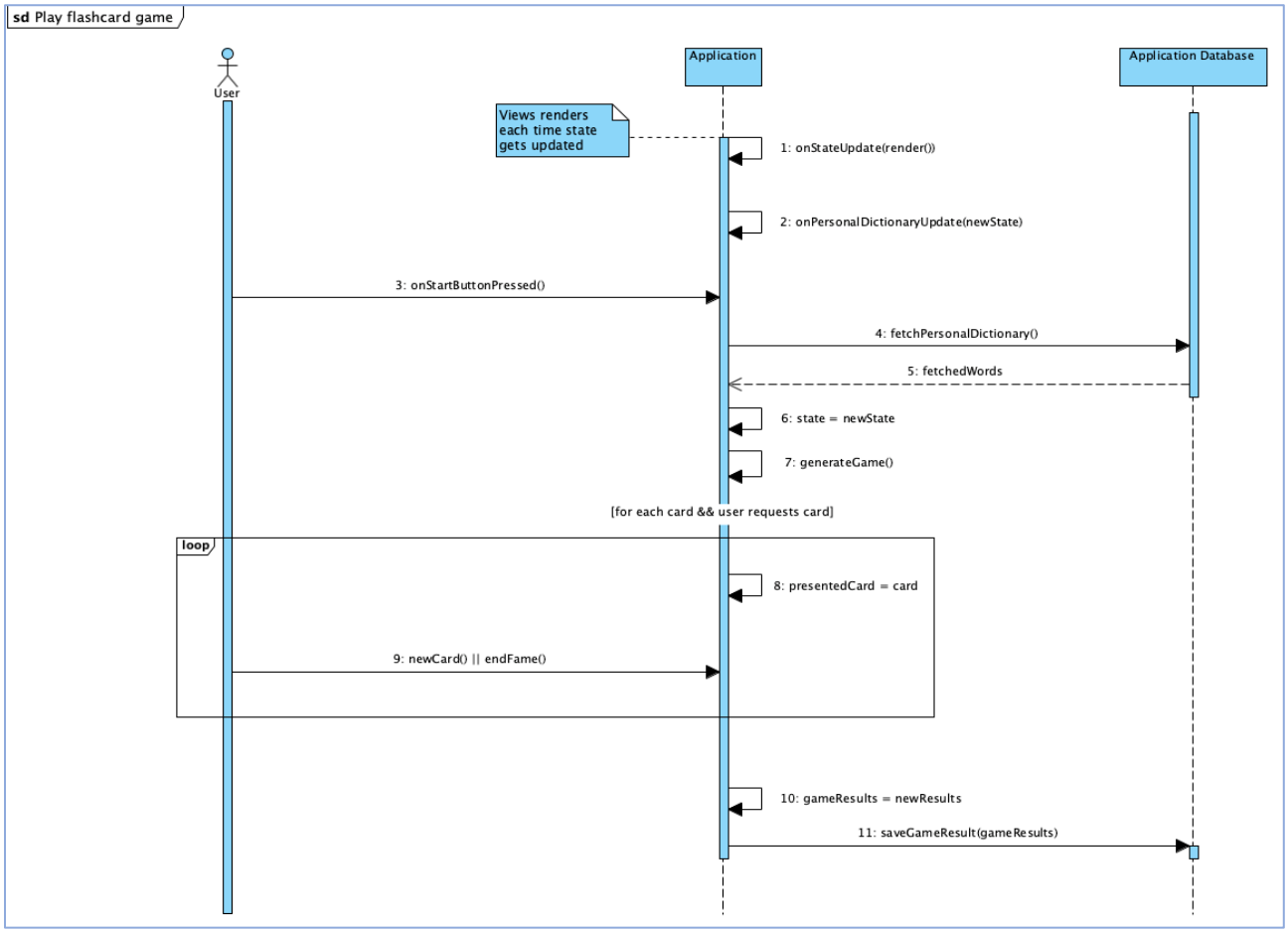
3.1. Design Class Diagram



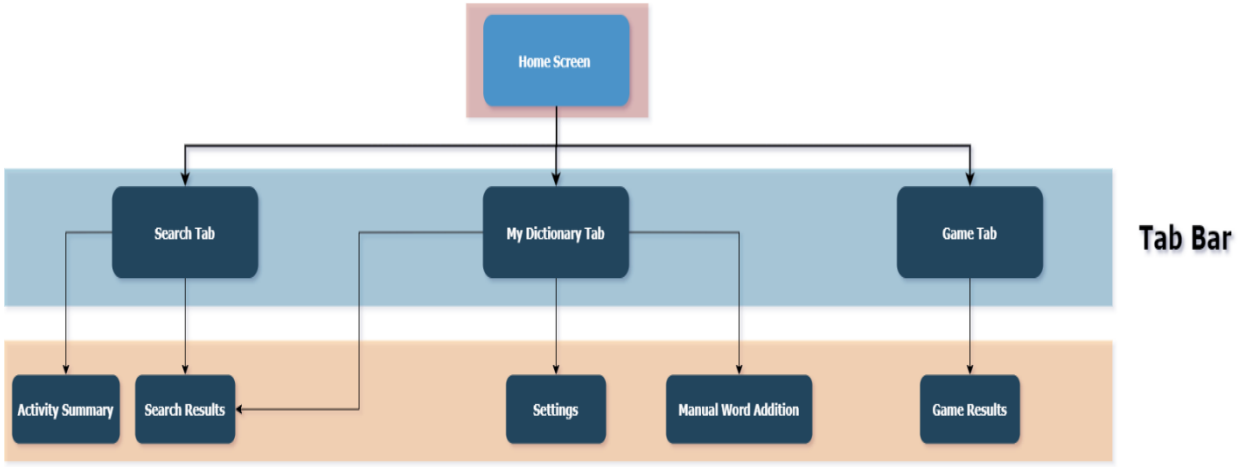
3.2. Design level Sequence Diagrams




sd Add word to a personal dictionary
User
Application
Application Database
Views renders each time state gets updated
1: onStateUpdate(render())
2: onWordSave(word)
3: saveWord(word)
4: onDatabaseChanged(newState)
5: state = newState


sd Play flashcard game
User
Application
Application Database
Views renders each time state gets updated
1: onStateUpdate(render())
2: onPersonalDictionaryUpdate(newState)
3: onStartButtonPressed()
4: fetchPersonalDictionary()
5: fetchedWords
6: state = newState
7: generateGame()
[for each card && user requests card]
loop
8: presentedCard = card
9: newCard() || endFame()
10: gameResults = newResults
11: saveGameResult(gameResults)

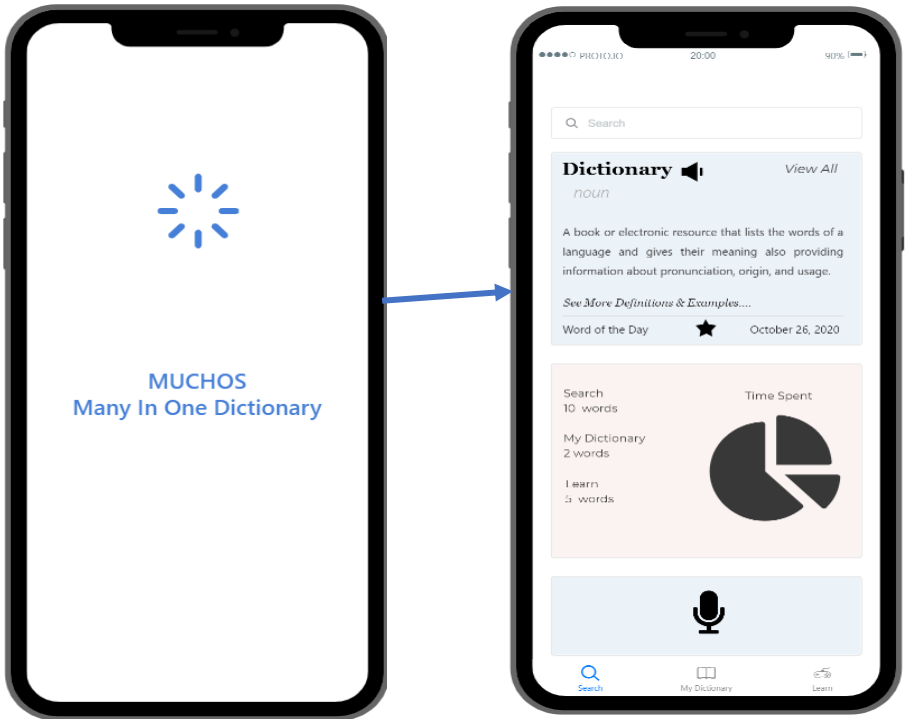
3.3. Navigation Diagram

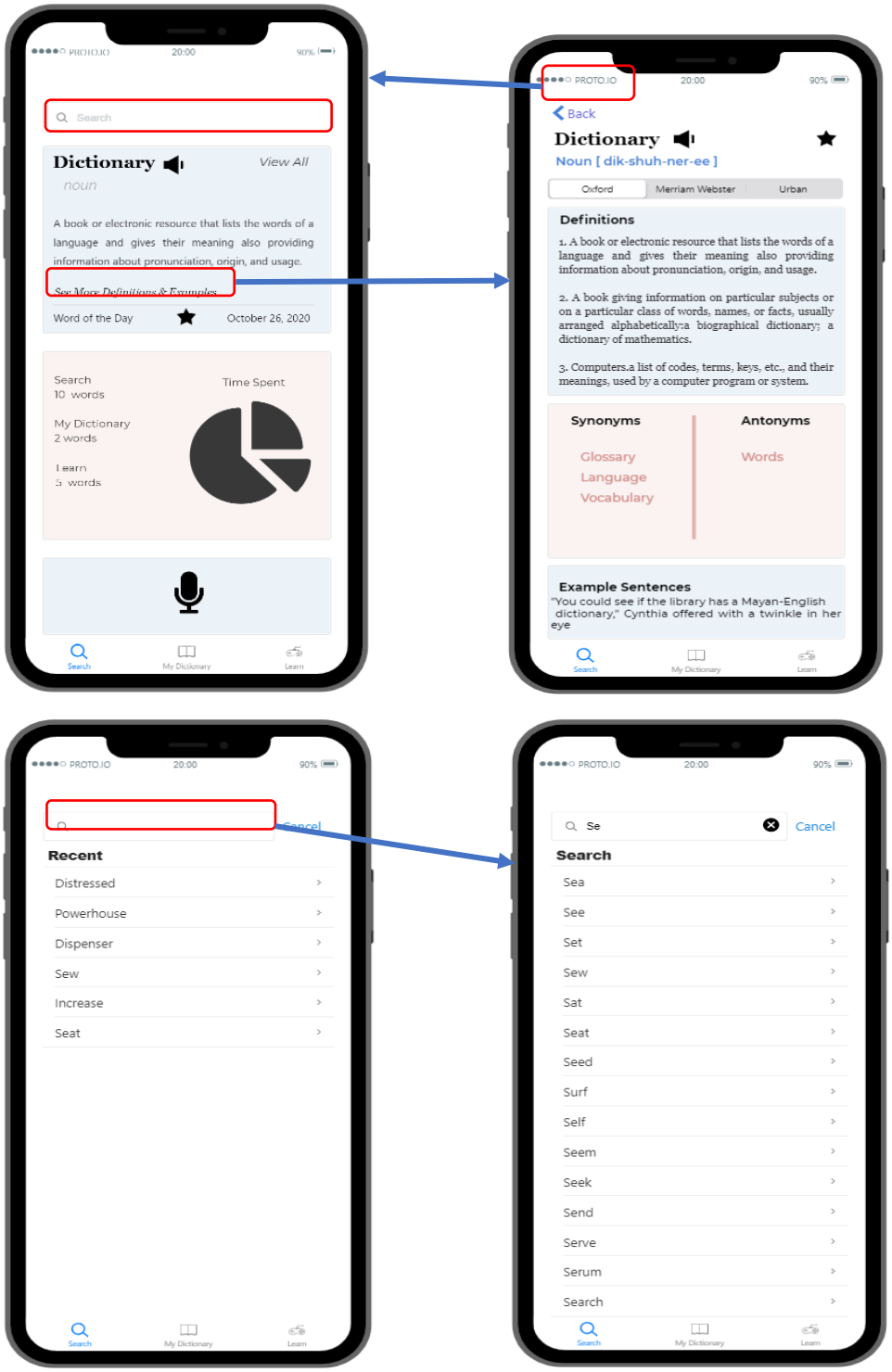


3.4. User Interface Prototype:

Please note that Prototyping will continue evolving in the next iteration as well.

3.4.1. Core Features

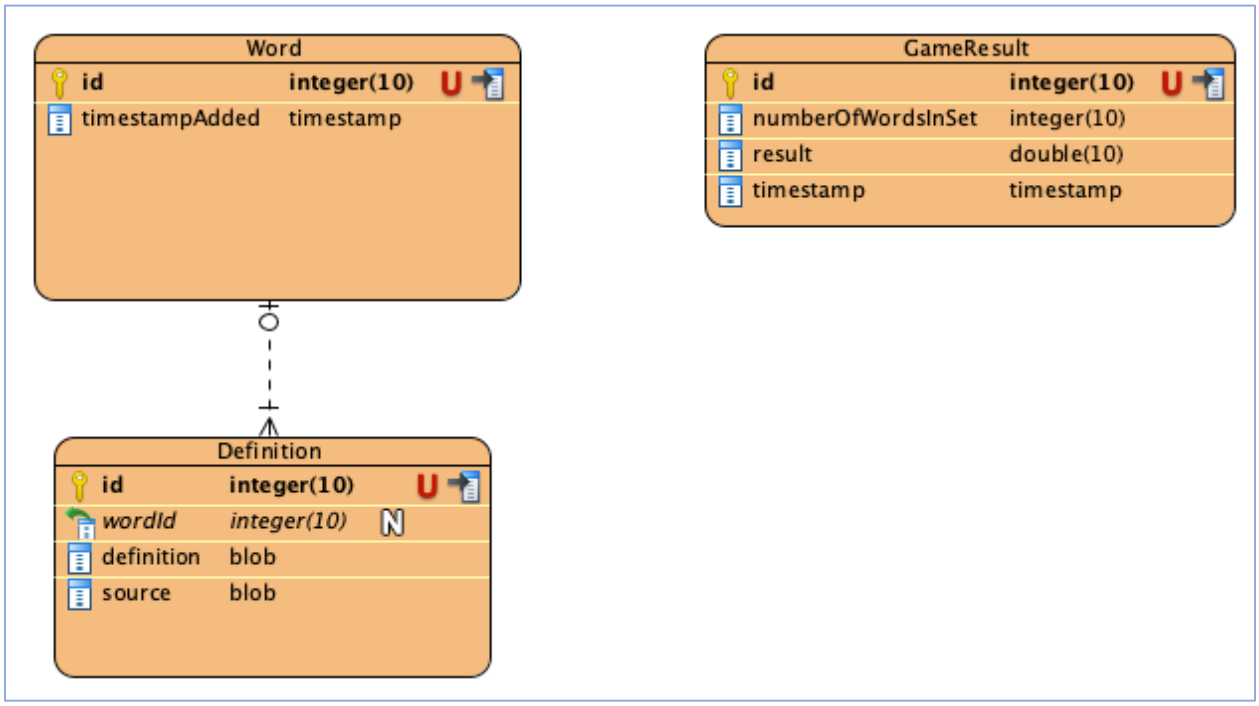



PROTO.IO
20:00
90%
Search
Dictionary
View All
noun
A book or electronic resource that lists the words of a language and gives their meaning also providing information about pronunciation, origin, and usage.
See More Definitions & Examples
Word of the Day
October 26, 2020
Search
10 words
My Dictionary
2 words
Learn
5 words
Time Spent
Back
Dictionary
Noun [dik-shuh-ner-ee]
Oxford
Merriam Webster
Urban
Definitions
1. A book or electronic resource that lists the words of a language and gives their meaning also providing information about pronunciation, origin, and usage.
2. A book giving information on particular subjects or on a particular class of words, names, or facts, usually arranged alphabetically:a biographical dictionary; a dictionary of mathematics.
3. Computers.a list of codes, terms, keys, etc., and their meanings, used by a computer program or system.
Synonyms
Glossary
Language
Vocabulary
Antonyms
Words
Example Sentences
"You could see if the library has a Mayan-English dictionary," Cynthia offered with a twinkle in her eye
Search
My Dictionary
Learn
Cancel
Recent
Distressed
Powerhouse
Dispenser
Sew
Increase
Seat
Se
Search
Sea
See
Set
Sew
Sat
Seat
Seed
Surf
Self
Seem
Seek
Send
Serve
Serum
Search

3.4.2. Nice to Have:

- Onboarding Tour

3.5. Entity Relationship Diagram (ERD)



3.6. Data Dictionary with field-level definitions or Glossary

- Table Name: Word

PK/FK	Field Name	Description	Type	Size (bytes)
PK	id	Unique Word Identifier	integer	8
	timestampAdded	Timestamp of when the word was added	timestamp (1,2 seconds precision)	1

- Table Name: Definition

PK/FK	Field Name	Description	Type	Size (bytes)
PK	id	Unique Definition Identifier	integer	8
FK	wordId	Connection for the word that this definition represents.	integer	8
	definition	The textual representation of the definition	blob	65535
	source	Source of the definition	blob	65535

- Table Name: GameResult

PK/FK	Field Name	Description	Type	Size (bytes)
PK	id	Unique GameResult Identifier	integer	8
	numberOfWordsInSet	Number of words that were used in the game	integer	8
	result	The score of the game	double	65535
	timestamp	Timestamp of when the game was played	timestamp (1,2 seconds precision)	1

4. Construction Phase – Iteration 3

4.1. Agile Iteration Summary

This summary report of Iteration 3 shows how close we are to the group's iteration plan and what adjustments are needed for the next phases.

4.1.1. Coordination Meetings

- Expected number of coordination team meetings: 4
- Actual number of coordination team meetings: 4
- Expected time per meeting: 15 minutes
- Actual average time: 30 minutes

4.1.2. Iteration Retrospective

During the construction phase, the main two requirements are the Unit Test Plan and The Working Code of the application. We followed our roadmap on Jira and our advisor's suggestions, and the team was able to finish all of the iteration's related tasks plus all tasks related to the Demo day. Also, we tackled some of the transition phase's duties, including optional requirements, which makes us ahead of our schedule.

The only one rework done to the project plan is combining the Unit and the User/System Test Plans in a Master Test Plan Document. Because only one team member owns a physical MacBook laptop, testing on a virtual Mac environment using the MacinCloud software was too complicated. The virtual Mac environment is either crashing or very slow when the build succeeds. So, we had to combine the two test plans to include manual tests and automated test cases to increase our testing coverage. The test plan tasks are expected to continue through the last phase.

4.2. Unit Tests Plan and Results

To be included in a separate document and shared with the project's advisor. Please note that we have created a Master Test Plan that contains the Unit Test Plan (required in Iteration 3) and User/System (required in Transition Phase) Test Plan.

4.3. Working Code Demonstration

To be demonstrated during a live session with the project's advisor.

5. Transition Phase

5.1. Help system (User doc) and tutorials

To be included in a separate document and shared with the project's advisor

5.2. Project ID Sheet & Deployment Guide

To be included in a separate document and shared with the project's advisor

5.3. Source Code & Deployment to Client

To be included in a separate zipped file and shared with the project's advisor

6. Demo & Judging Deliverables

During the construction phase, we also worked on demo day deliverables. We were able to finish all of the tasks related to the project's demonstration day, including business cards, project slides, and resumes. To be submitted on demo day or when submitting Iteration 3 deliverables.

7. Appendix

7.1. Analysis Phase - Iteration 1

7.1.1. Team Status Report

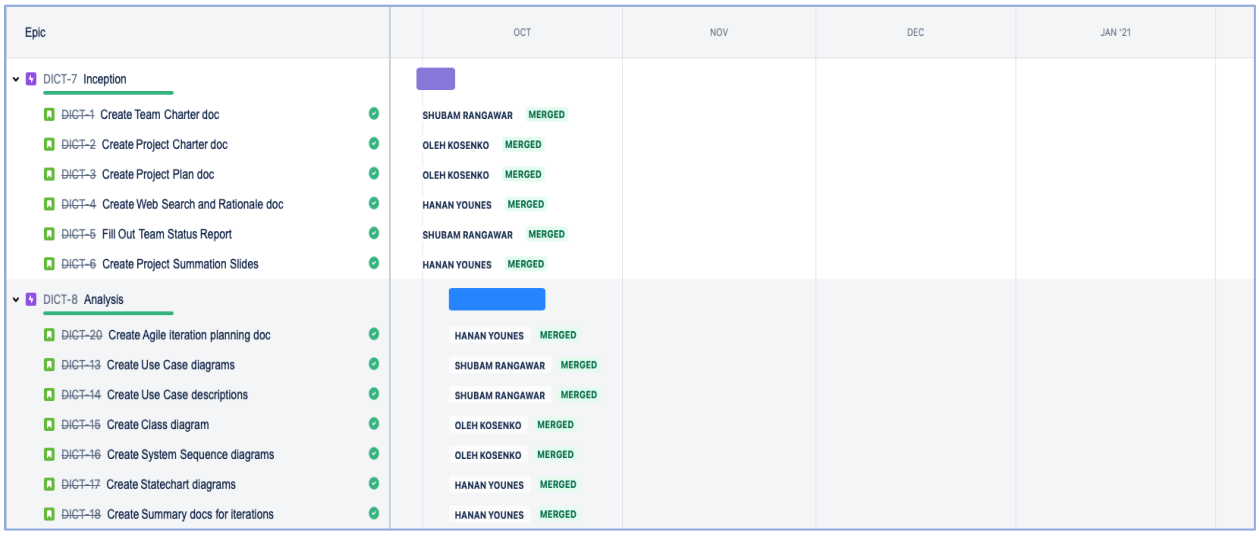
Location	Team Meeting / Team Activity	Present (list of initials)	Date YYYY.MM.DD	Duration (nearest .25 hr.)
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/10/05	40 mins
Virtual	Team Meeting	OK, HY, SR	2020/10/05	50 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/10/14	15 mins
Virtual	Team Meeting	OK, HY, SR	2020/10/15	20 mins
Virtual	Team Meeting	OK, HY	2020/10/17	20 mins
ISSUES/OBSTACLES/DEPENDENCIES/PROBLEMS				

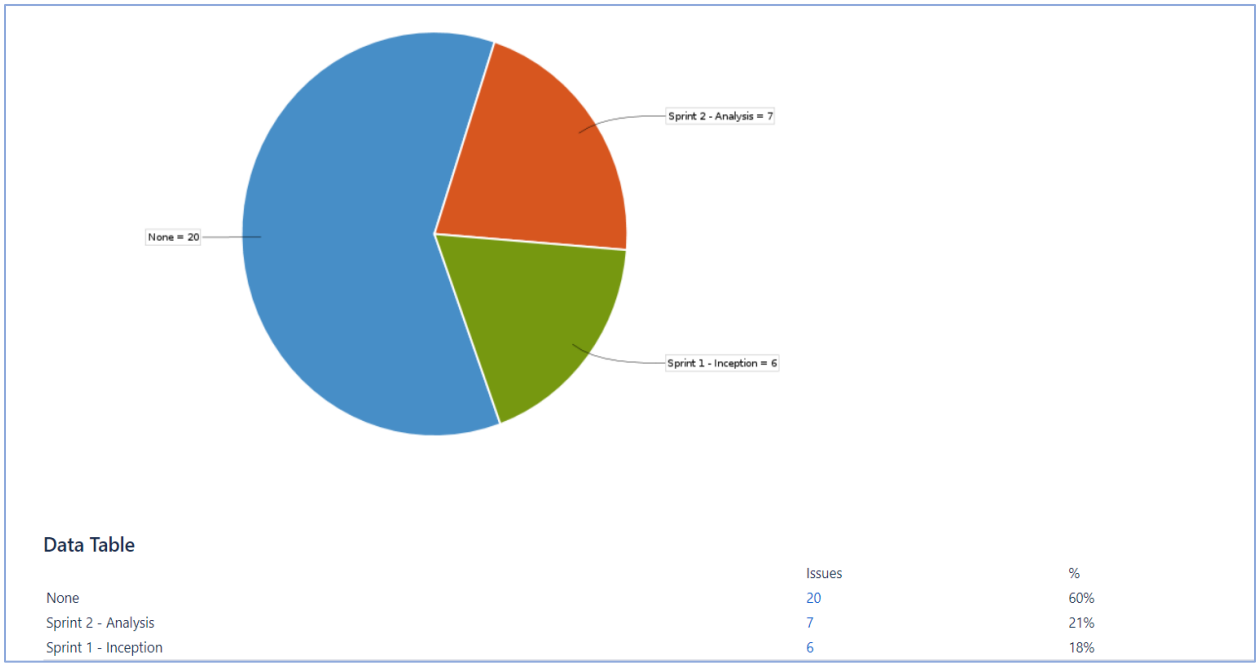
7.1.2. Agile Backlog

For iteration 1, we worked mainly on analysis related tasks. We were able to finish all of the tasks as planned.

7.1.3. Agile Release Summary

- Task summary for the Inception and Analysis phases

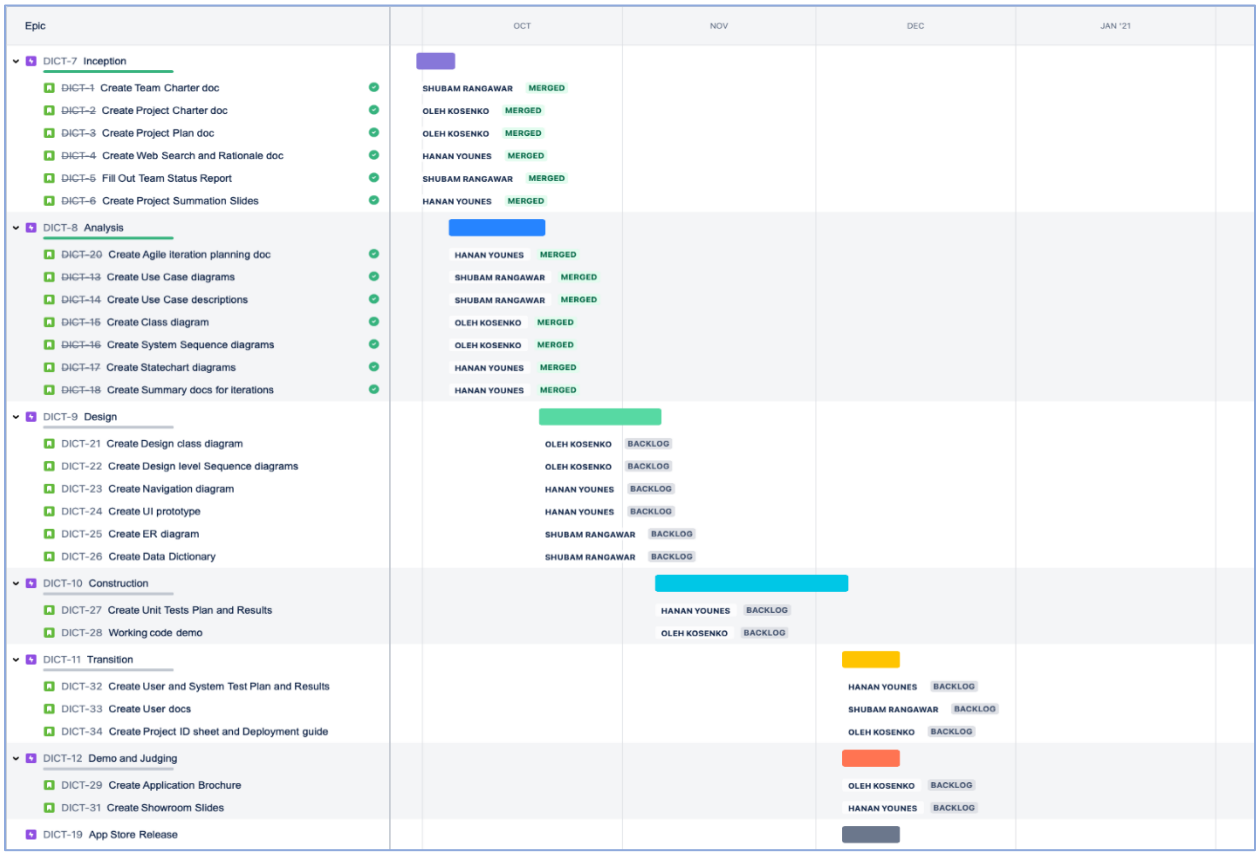




Data Table

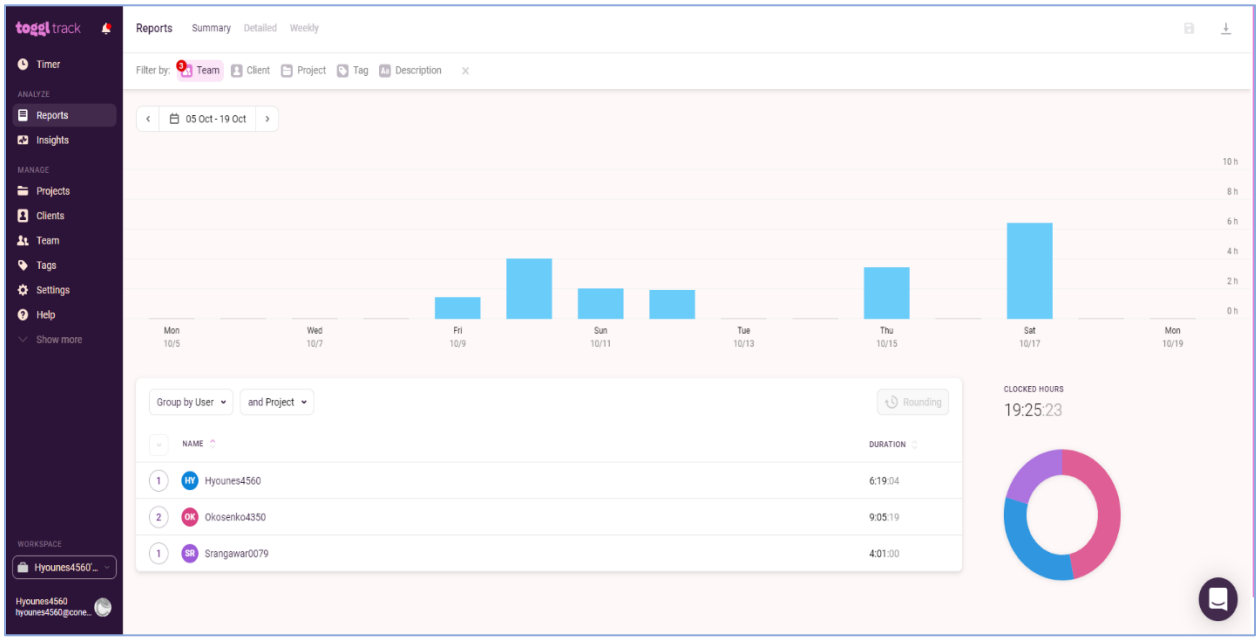
	Issues	%
None	20	60%
Sprint 2 - Analysis	7	21%
Sprint 1 - Inception	6	18%

- Task summary for the whole project

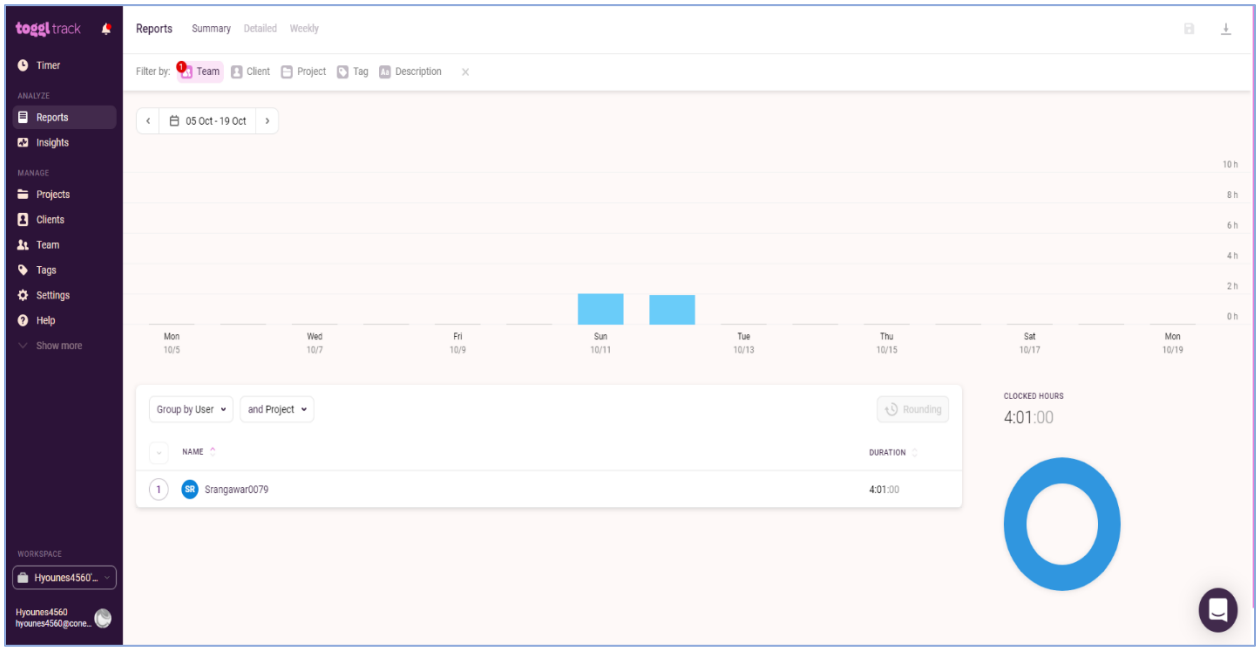


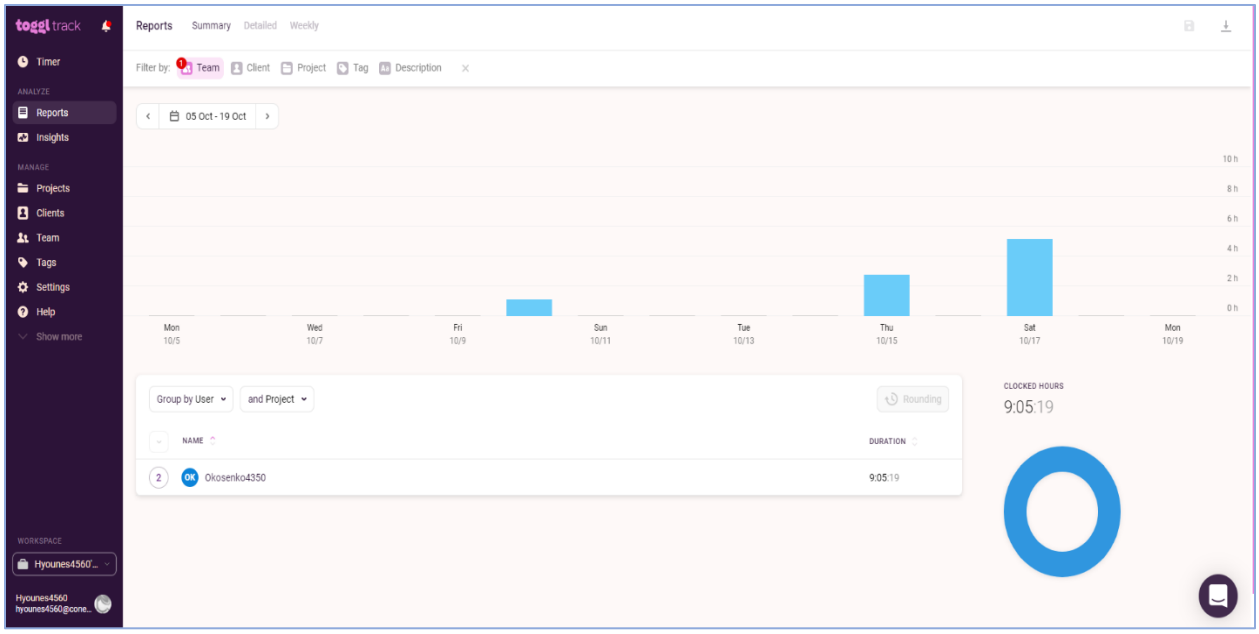
7.1.4. Toggl timer reports

- For the whole project



- For each team member:




toggl track
Reports
Summary
Detailed
Weekly
Timer
ANALYZE
Reports
Insights
MANAGE
Projects
Clients
Team
Tags
Settings
Help
Show more
WORKSPACE
Hyounes4560'...
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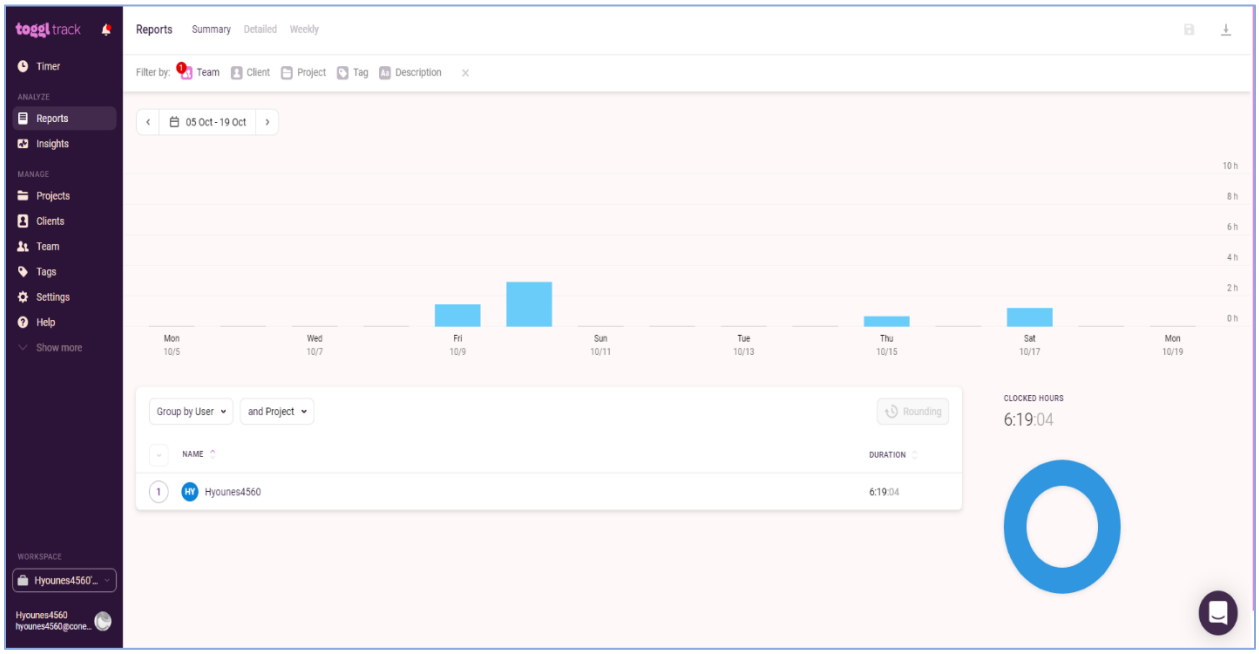
hyounes4560@cone...
Filter by:
Team
Client
Project
Tag
Description
05 Oct - 19 Oct
10 h
8 h
6 h
4 h
2 h
0 h
Mon 10/5
Wed 10/7
Fri 10/9
Sun 10/11
Tue 10/13
Thu 10/15
Sat 10/17
Mon 10/19
Group by User
and Project
Rounding
NAME
DURATION
2
OK
Okosenko4350
9:05:19
CLOCKED HOURS
9:05:19


toggl track
Reports
Summary
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Weekly
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Settings
Help
Show more
WORKSPACE
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Filter by:
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Project
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Description
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Mon 10/5
Wed 10/7
Fri 10/9
Sun 10/11
Tue 10/13
Thu 10/15
Sat 10/17
Mon 10/19
Group by User
and Project
Rounding
NAME
DURATION
1
HY
Hyounes4560
6:19:04
CLOCKED HOURS
6:19:04

7.2. Design Phase - Iteration 2

7.2.1. Team Status Report

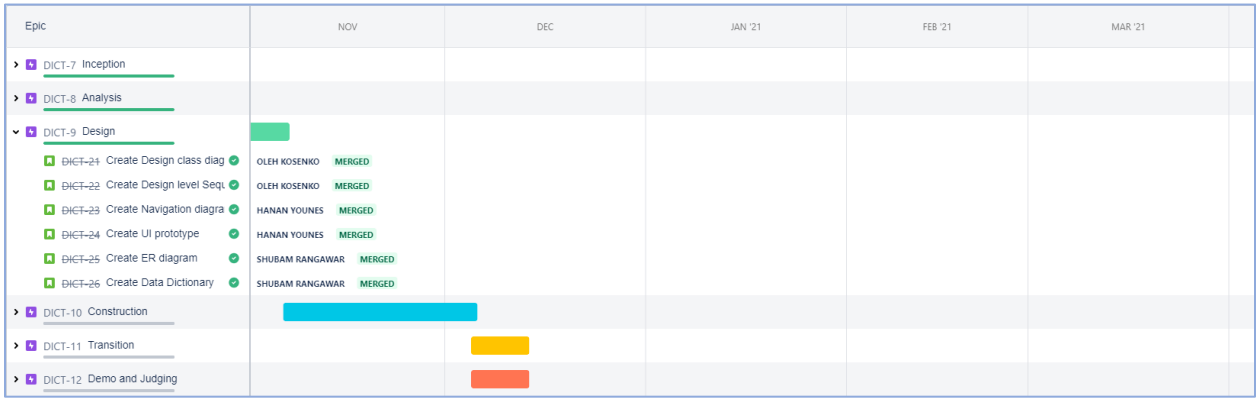
Location	Team Meeting / Team Activity	Present (list of initials)	Date YYYY.MM.DD	Duration (nearest .25 hr.)
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/11/03	25 mins
Virtual	Meeting with Advisor	HS, OK	2020/11/04	30 mins
Virtual	Team Meeting	OK, HY, SR	2020/11/08	10 mins
Virtual	Team Meeting	OK, HY, SR	2020/11/04	30 mins
Virtual	Team Meeting	OK, HY, SR	2020/11/03	20 mins
Virtual	Team Meeting	OK, HY	2020/10/24	24 mins
ISSUES/OBSTACLES/DEPENDENCIES/PROBLEMS Finding a convenient time that will work for our team and supervisor.				

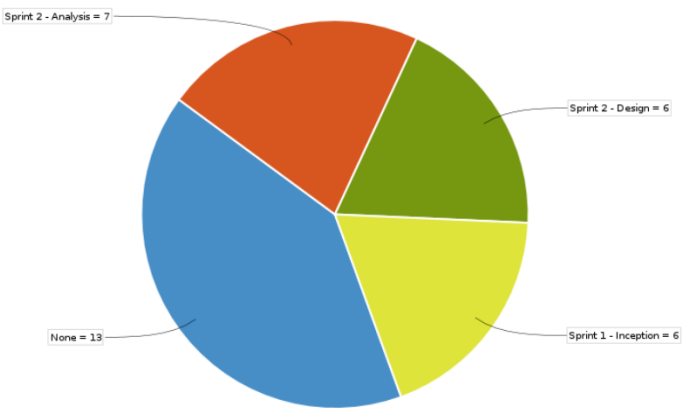
7.2.2. Agile Backlog

During iteration 2, we worked mainly on design related tasks; however, we also incorporated some coding activities. We were able to finish most of the tasks as planned. However, since this is an entrepreneurial project, we didn't have a complete and predefined set of features to implement. Consequently, more UI prototypes may be added in the next iteration as we continue working on both design and construction.

7.2.3. Agile Release Summary

- Task summary for the current phase

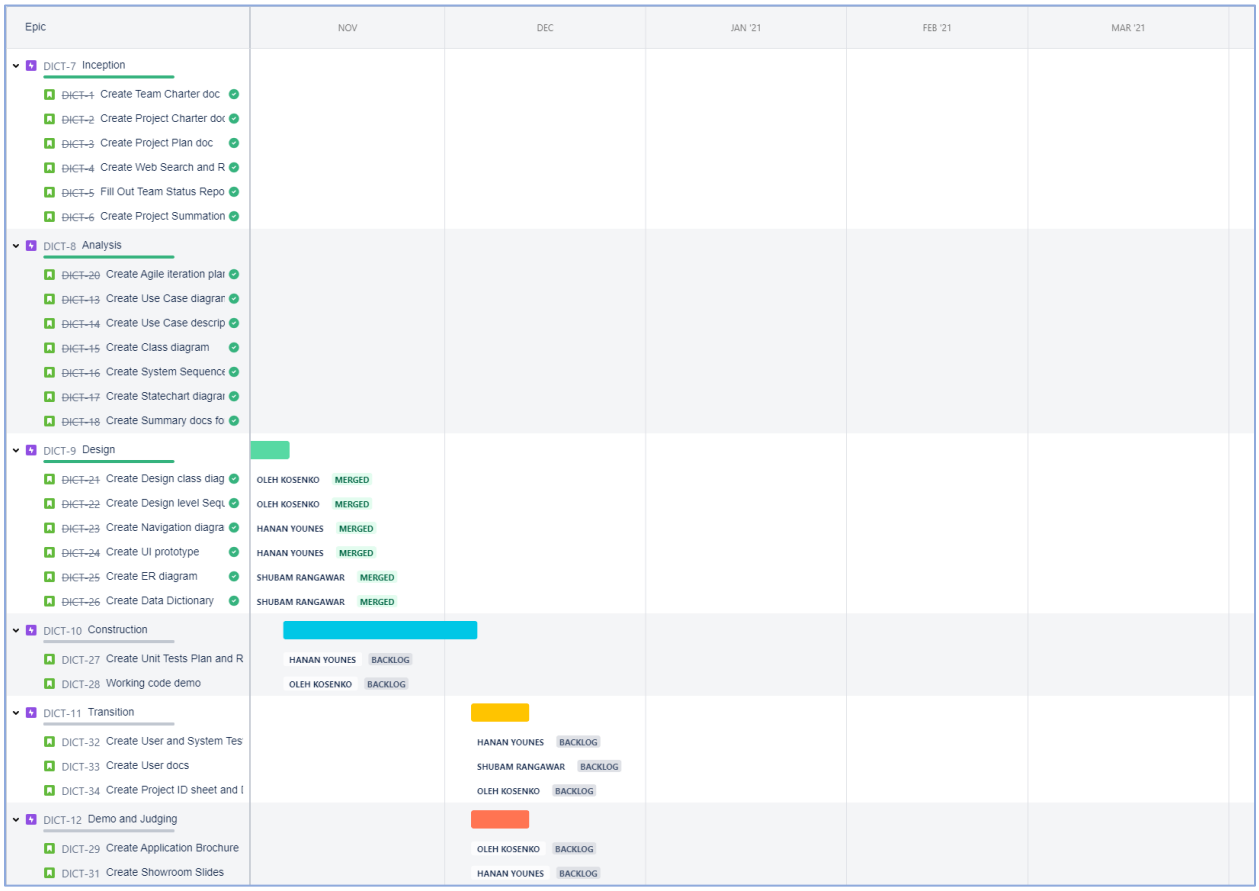




Data Table

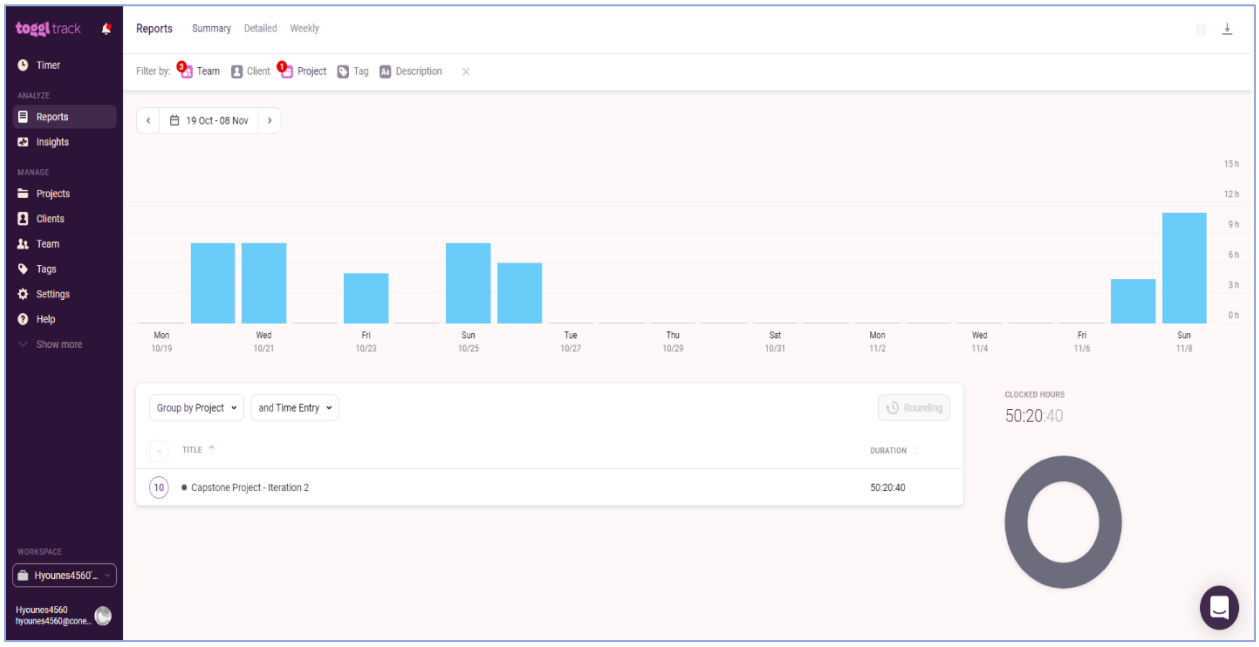
	Issues	%
None	13	40%
Sprint 2 - Analysis	7	21%
Sprint 2 - Design	6	18%
Sprint 1 - Inception	6	18%

- Task summary for the whole project

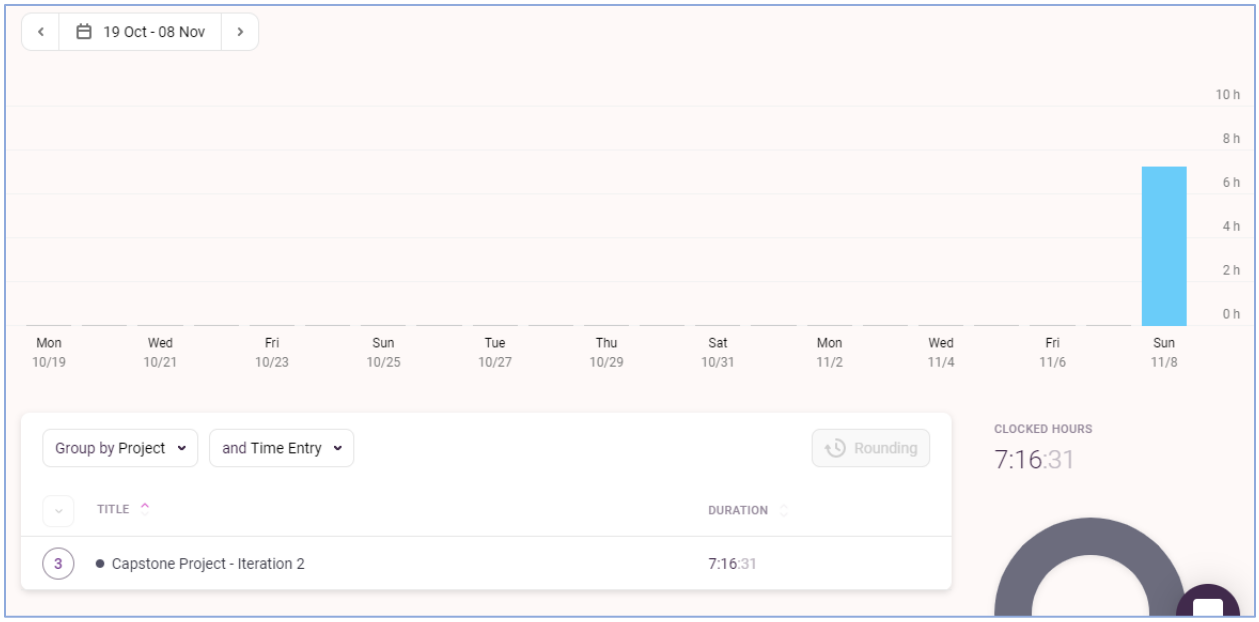


7.2.4.Toggl Reports

- For the whole project



- For each team member


19 Oct - 08 Nov
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8 h
6 h
4 h
2 h
0 h
Mon 10/19
Wed 10/21
Fri 10/23
Sun 10/25
Tue 10/27
Thu 10/29
Sat 10/31
Mon 11/2
Wed 11/4
Fri 11/6
Sun 11/8
Group by Project
and Time Entry
Rounding
TITLE
DURATION
3
Capstone Project - Iteration 2
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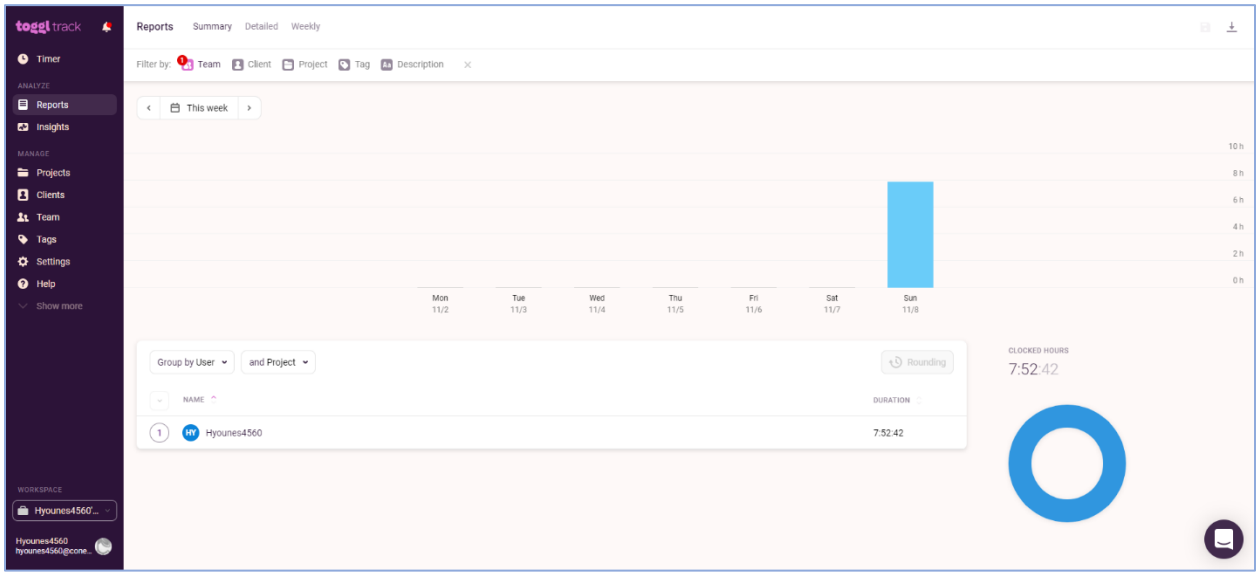
CLOCKED HOURS
7:16:31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Filter by:
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6 h
4 h
2 h
0 h
Mon 11/2
Tue 11/3
Wed 11/4
Thu 11/5
Fri 11/6
Sat 11/7
Sun 11/8
Group by User
and Project
Rounding
NAME
DURATION
1
HY
Hyounes4560
7:52:42
CLOCKED HOURS
7:52:42

7.3. Construction Phase - Iteration 3

7.3.1. Team Status Report

Location	Team Meeting / Team Activity	Present (list of initials)	Date YYYY.MM.DD	Duration (nearest .25 hr.)
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/11/09	25 mins
Virtual	Team Meeting	OK, HY, SR	2020/11/15	30 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/11/16	20 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/11/23	22 mins
Virtual	Team Meeting	OK, HY, SR	2020/11/29	32 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/12/01	19 mins
Virtual	Team Meeting	OK, HY, SR	2020/12/01	22 mins
Virtual	Team Meeting	OK, HY, SR	2020/12/05	18 mins

ISSUES/OBSTACLES/DEPENDENCIES/PROBLEMS

The main obstacle that affected this whole project is the lack of physical Mac machines. We contacted the program coordinator to provide us with MacBook devices, but we were only given access to the MacinCloud environment. Our team tried developing and testing on the MacinCloud virtual environment; however, it was unreliable nor functional. Due to performance shortcomings, coding and testing iOS mobile applications on the cloud, using simulators is very slow and inconvenient

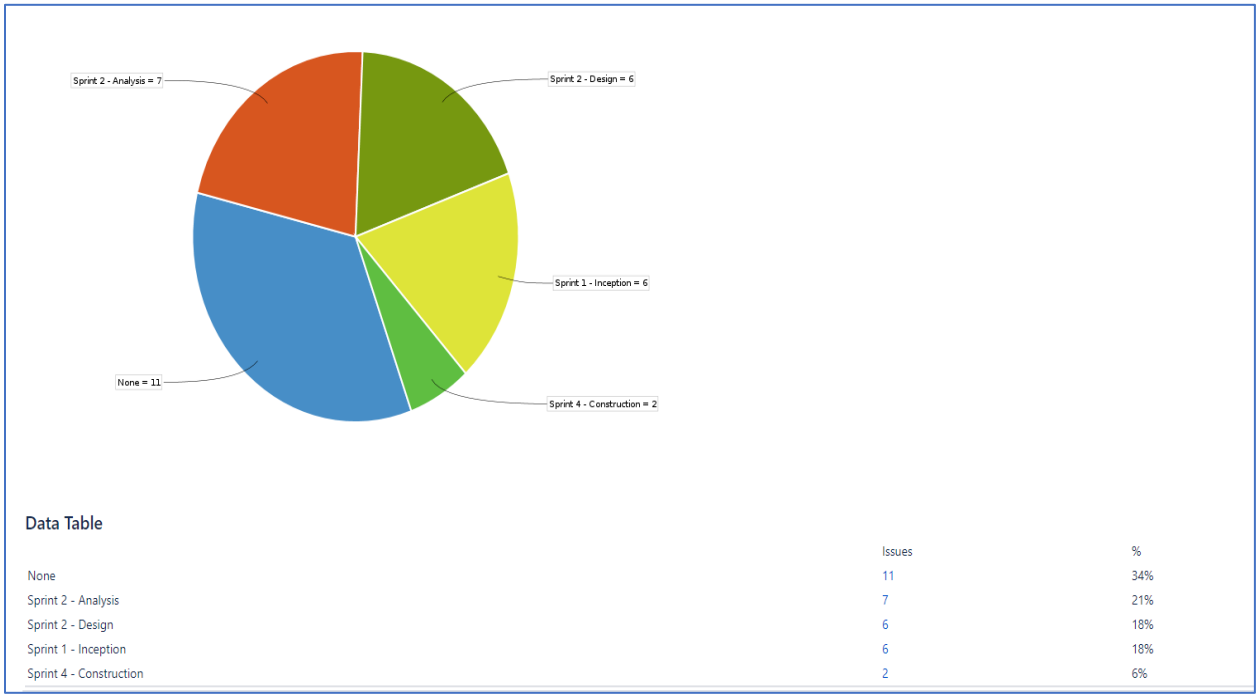
7.3.2. Agile Backlog

During iteration 3, Oleh worked mainly on coding-related tasks, while the rest of the team worked on testing, documentation, and other deliverables. We followed our roadmap on Jira and our advisor's suggestions, and the team was able to finish all of the iteration's related tasks plus all tasks related to the Demo day. Also, we tackled some of the transition phase's duties, including optional requirements, which makes us ahead of our schedule. However, since this is an entrepreneurial project, we didn't have a complete and clear vision regarding app features and functionalities. Consequently, Changes are expected till the last day. For example, Units Testing tasks are expected to continue through the next phase.

7.3.3. Agile Release Summary

- Task summary for the current phase

- Task summary for the whole project

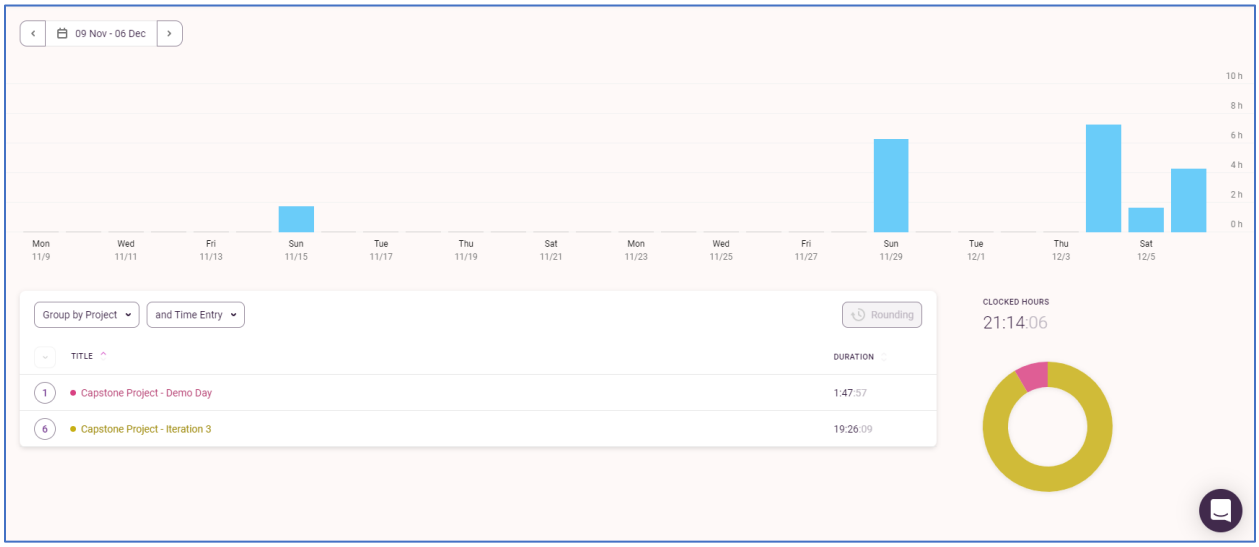


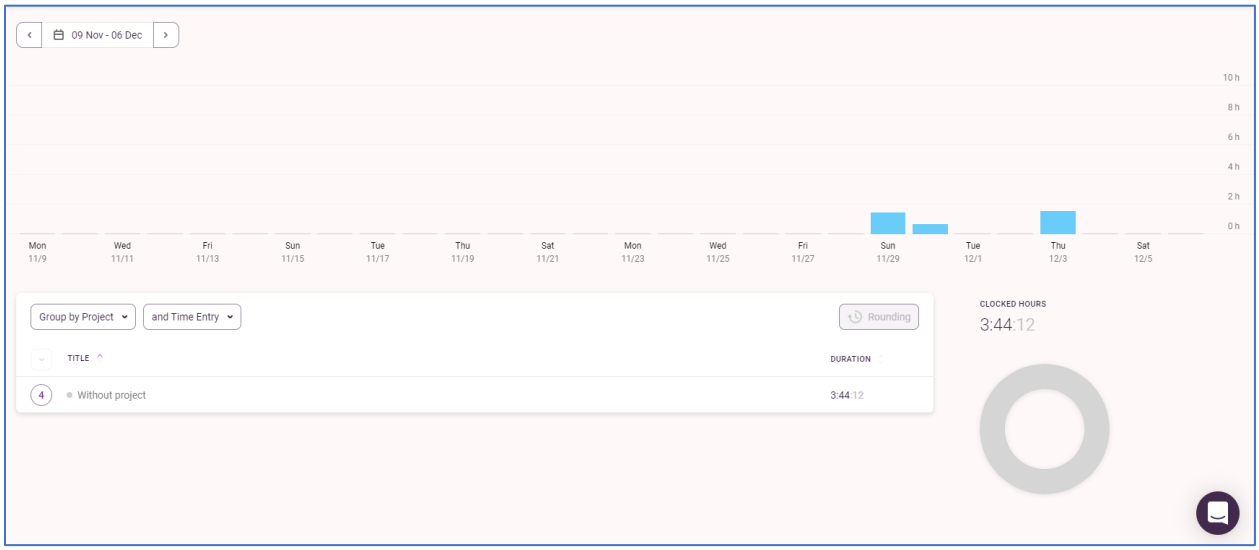
	Issues	%
None	11	34%
Sprint 2 - Analysis	7	21%
Sprint 2 - Design	6	18%
Sprint 1 - Inception	6	18%
Sprint 4 - Construction	2	6%

7.3.4.Toggl Reports

- For the whole project

- For each team member





7.4. Transition and Demo Phases

7.4.1. Team Status Report

Location	Team Meeting / Team Activity	Present (list of initials)	Date YYYY.MM.DD	Duration (nearest .25 hr.)
Virtual	Team Meeting	OK, HY, SR	2020/12/05	16 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/12/10	25 mins
Virtual	Team Meeting	OK, HY, SR	2020/12/13	19 mins
Virtual	Meeting with Advisor	HS, OK, HY, SR	2020/12/14	15 mins
ISSUES/OBSTACLES/DEPENDENCIES/PROBLEMS				

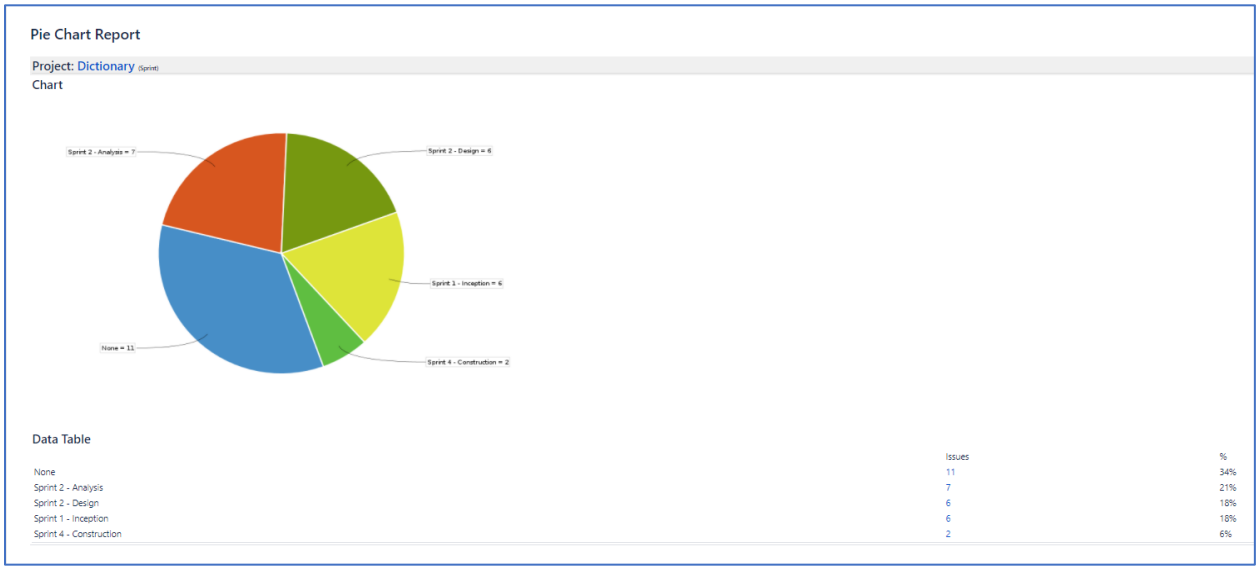
7.4.2. Agile Backlog

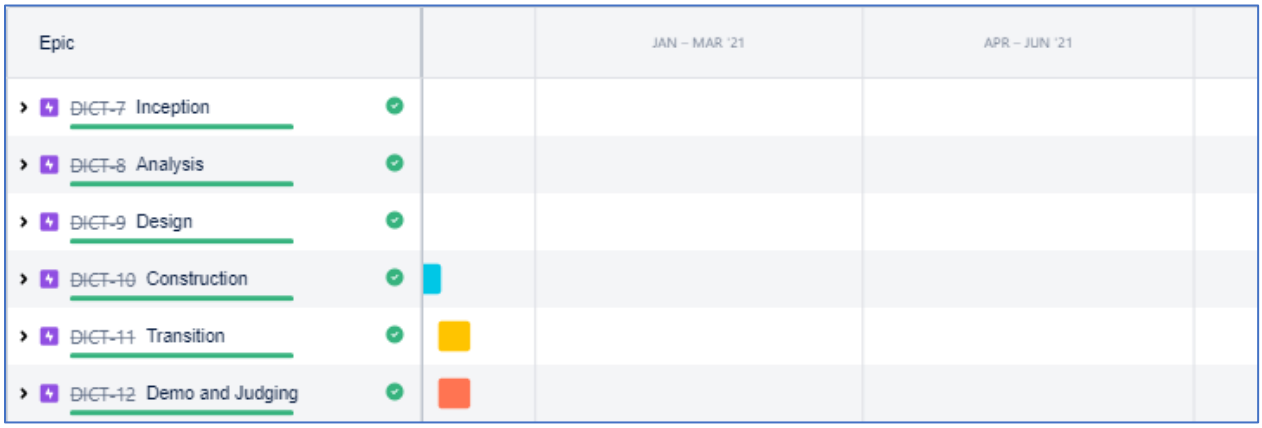
For this iteration, we worked mainly on coding and documentation related tasks. We were able to finish all of the tasks as planned.

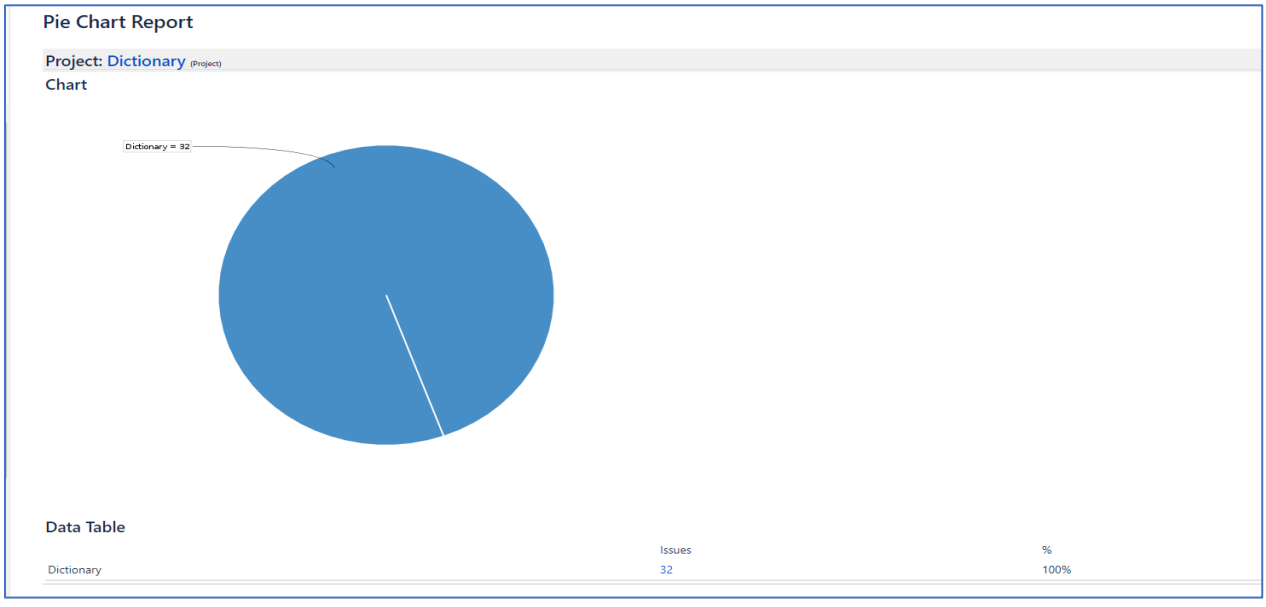
7.4.3. Agile Release Summary

- Task summary for the current phase

- Task summary for the whole phase

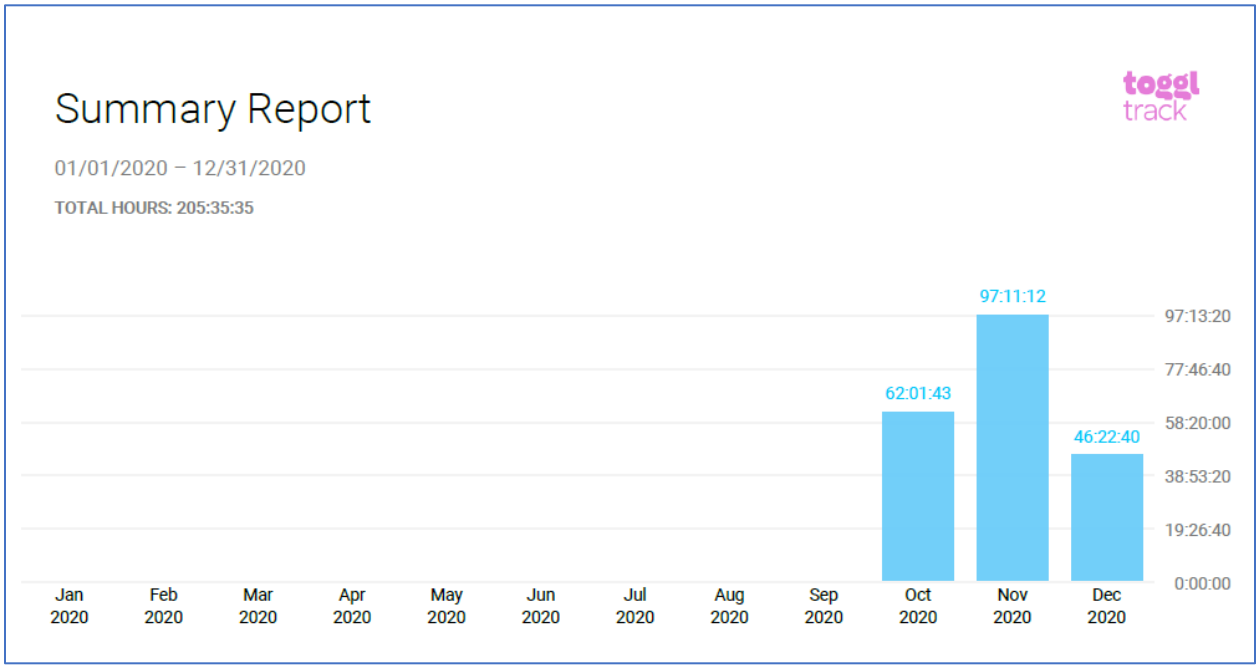




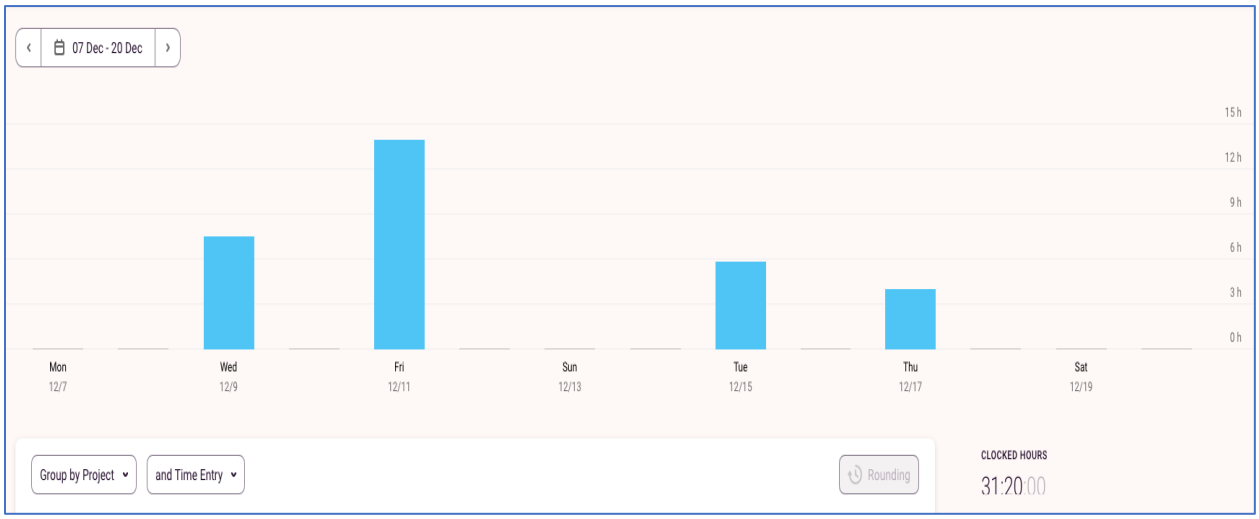


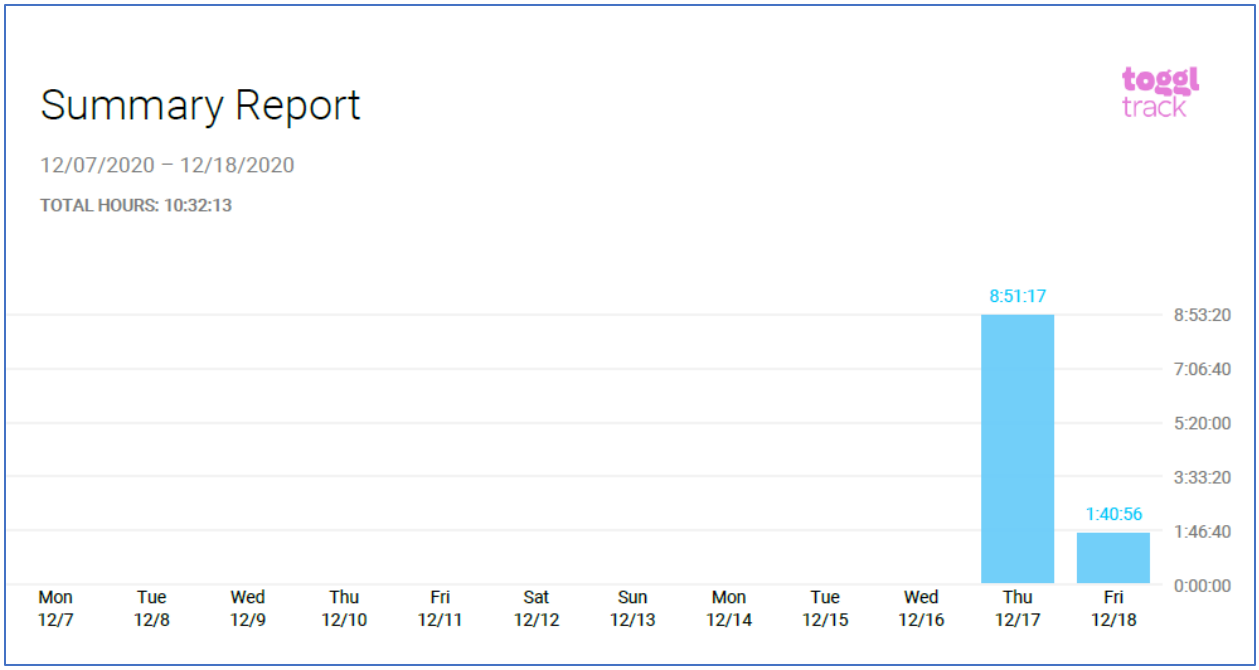
7.4.4. Toggl Reports

- For the whole project



- For each team member





8. References:

[1] Hindy, J. (Jun 3rd, 2020). 10 best dictionary apps for Android! Retrieved on Oct 3rd, 2020 from https://www.androidauthority.com/best-dictionary-apps-android-751290/

[2] The free dictionary. Retrieved on Oct 3rd, 2020 from https://www.thefreedictionary.com/