MANUKAU INSTITUTE OF TECHNOLOGY

Faculty of Business and Information Technology

REPORT ON

AN GAME DEVELOPMENT: FOOD STORAGE FOR KIDS

Module	:	**Hot Topic in Software(502.714-18-MC-11)**
Lecturer	:	**Dr.Fadi Fayez**
Date of submission	:	**11th April 2018**
Team Members		
Emails		

ACKNOWLEDGEMENT

We would not have been able to complete this project successfully, without the kind support and help from many numerous people.

To start with, we would like to thank our lecturer Dr Fadi Fayez for his continuous support and guidance in preparation for this project. Without his precious direction, our efforts could have been short-sighted.

We would like to render a particular word to all friends for filling in all their advice and support at crucial times. Especially Connor Gear for making App Icon and Connor McCormick and suggesting good idea opening storage while dragging on food storage. We will be failing in our duties if we forget Manukau Institute of Technology, Auckland, New Zealand for providing the essential resources always and for being a pinnacle of quality.

At long last, we might want to thank our folks and families for their endless help, consolation, and inspiration gave to us.

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1. INTRODUCTION

1.1 WHAT IS FOOD SAFETY?

Food safety is a global matter that contains different areas of life. The term food safety is defined as a method to store food in a way that it can reduce foodborne illness(Food safety, 2017). Food safety aims to save food from becoming contaminated and poisoning(Food safety, 2017). A different procedure like cleaning can achieve food safety and sanitise all surface and utensils in the kitchen, maintaining a high level of hygiene(Food safety, 2017).

Contaminated food has harmful substances, causes more than 200 diseases like diarrhoea and in worst case cancer. According to (Food safety, 2017).Almost 600 million people in the world receive contaminated food and fall ill after it, which causes 420 000 deaths per year. Foodborne illness prevents social, economic development by harming the health care system and harming the national economy, tourism, and trade. Unsafe diet affects diseases (like diarrhoea) and affects malnutrition, especially infants, young children.

Our game's aim is to make a simple mobile game which can increases awareness to young children ages 3 to 5 year about food safety, mainly focusing on storage of different food items in a right manner.

This aim can be achieved by,

- Developing a simple game that easy to use.
- Increasing awareness about storing food to younger minds.
- Choosing to trash of contaminated food and storing food in right manner.

MOV stands for Measurable Organization Value. It has defined as the projects overall goal and measure of success. In the IT field, it must align with the or generation's objective, mission, and goals(Clarkson, 2012). With this pure fun and educational game, we will impact social aspect of society by increasing awareness.

We have selected demographics of children aged three years to 5-year-old who understand food images and learn the idea of putting food safely.

By this, we want to answer the research question which is, Can we improve awareness to younger children about food storage by the simple app?

2 LITERATURE REVIEW

Here in this section, were viewed on a handful of an android or I-phone applications which include food safety and storage as a central idea. We have chosen this five apps and compared them and with each other.

2.1 FOOD SAFETY TOOLKIT

The food safety toolkit app was developed to help health inspection to train on the spot during an inspection. The app provides resources that teach and reinforce food safety principles. This game is a mobile application for providing training to users about food safety with using videos tutorial and notes(Food Safety Toolkit, 2017).

This application also includes the food safety posters, food safety-related videos, food safety humour, cartoons, FDA resources, oral culture project videos, food codes. This application provides food safety information and details about food safety tools to the agencies. This application is informative and structural to be more educational. This app has a total review of eight people with 3.6 out 5 rating and no in-app purchase part.

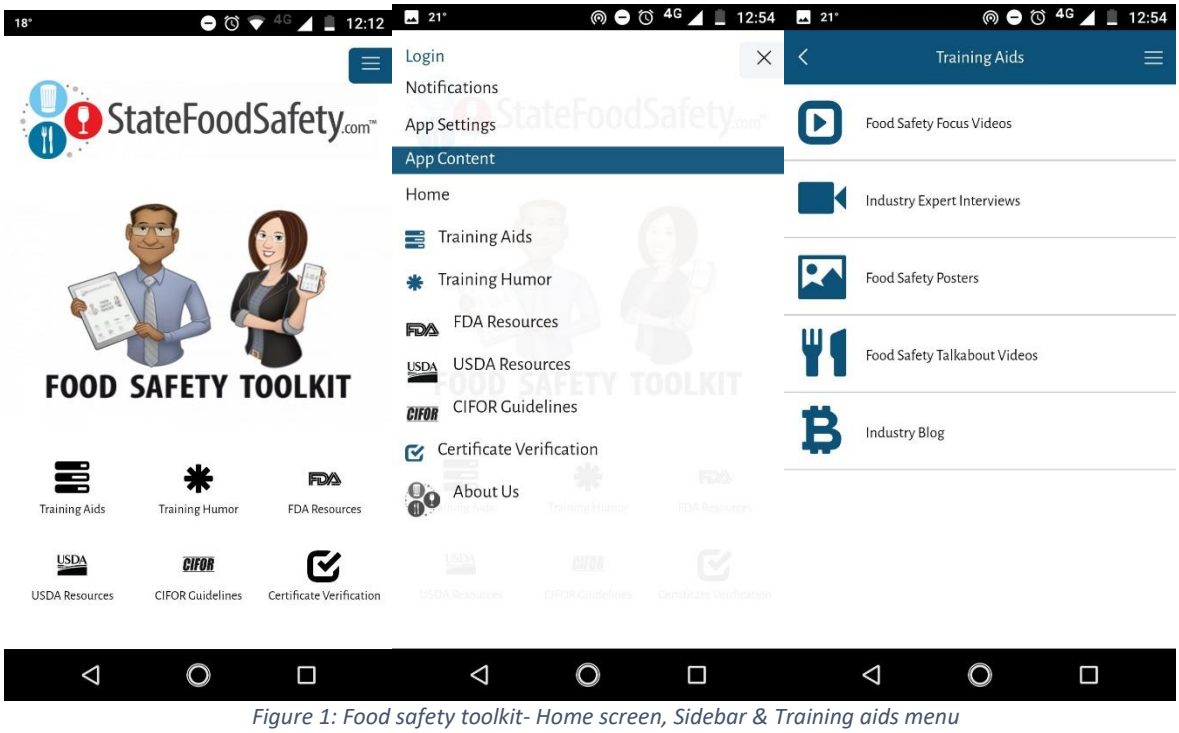

Figure 1: Food safety toolkit- Home screen, Sidebar & Training aids menu

2.2 GMP FOOD SAFETY

GMP food safety application contains a practical guide to implement good manufacturing practices in food. It includes the portals which contain news about food safety. This application contains the whole syllabus of food safety with different chapters. This application is a total guide to the food safety manuals(GMP Food Safety, 2017).

This application is mainly helping to improve food safety and food storage for the manufacturer of food. Moreover, this application also provides information about the recent news about food safety and rules of food safety. Professionals in the food industry and related technology and quality inspectors are the targeted audiences of this application. This app has reviewed by 19 people, who gave 4.7 out 5 rating.This game has in-app purchase part of sale modules to buy extra data.

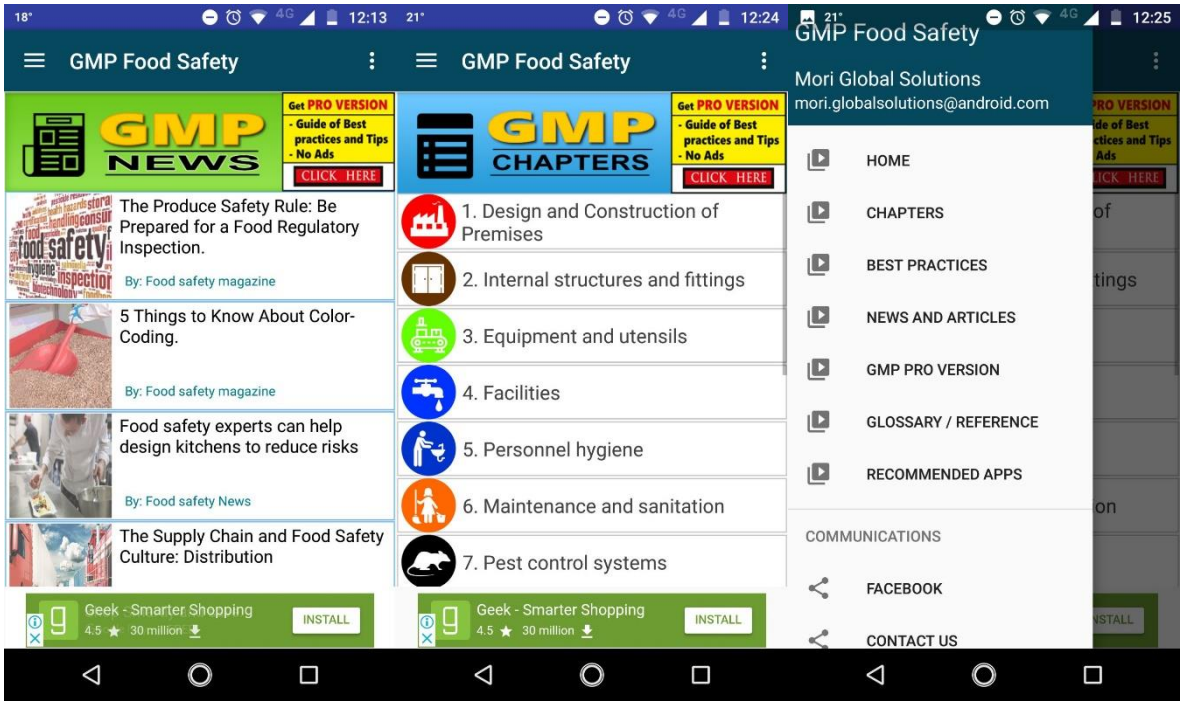

Figure 2: GMP Food Safety- Home screen, Chapter screen & Sidebar

2.3 IS MY FOOD SAFE?

This mobile application is about home food safety program. This app is a more like an education application and not to consider a game. It includes the safety information of safe internal cooking temperature for meats and more. Ittestsuser's knowledge of kitchen safety. It also includes the expert advice where the user can have a conversation with food safety experts. This application also includes the quiz of several questions related to the food storage and food safety. In the quiz section, some pictures ask the user for the right answer and right sequence about food storage(Is My Food Safe?, 2016).This app has reviewed by two people with five out 5 rating received and has not included in-app purchase part of sale modules.

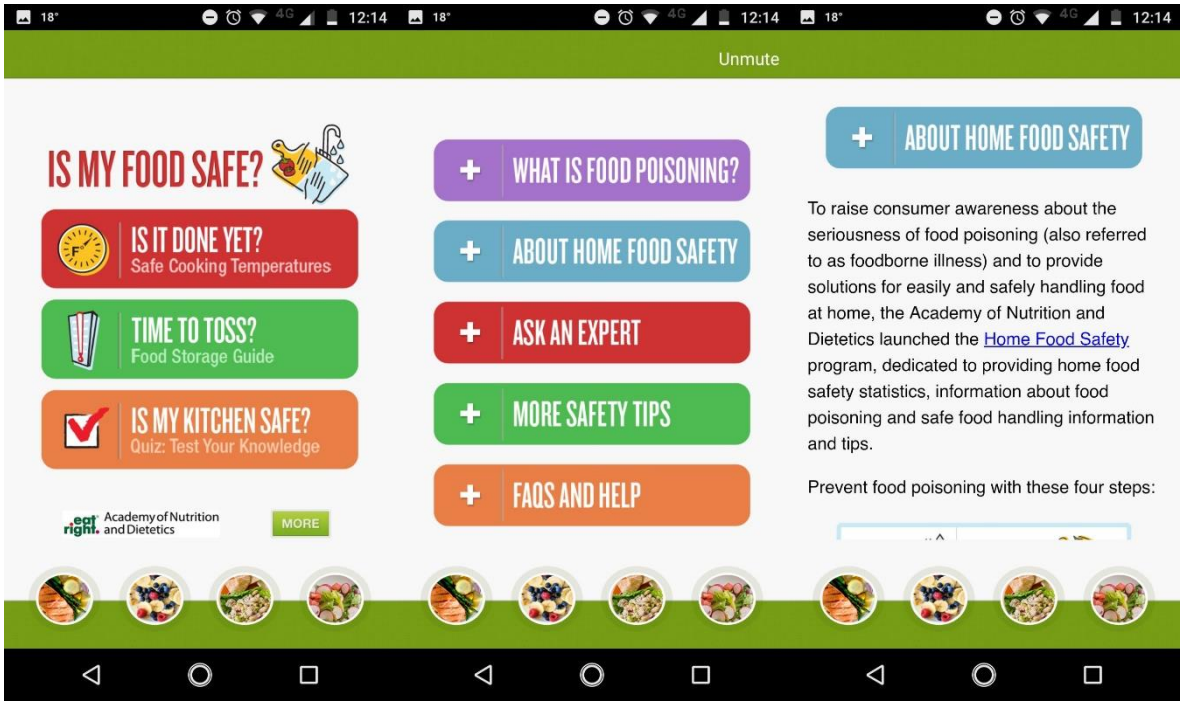

Figure 3: Is My Food Safe? - Home screen, Chapter screen & About page

2.4 FOOD STORAGE

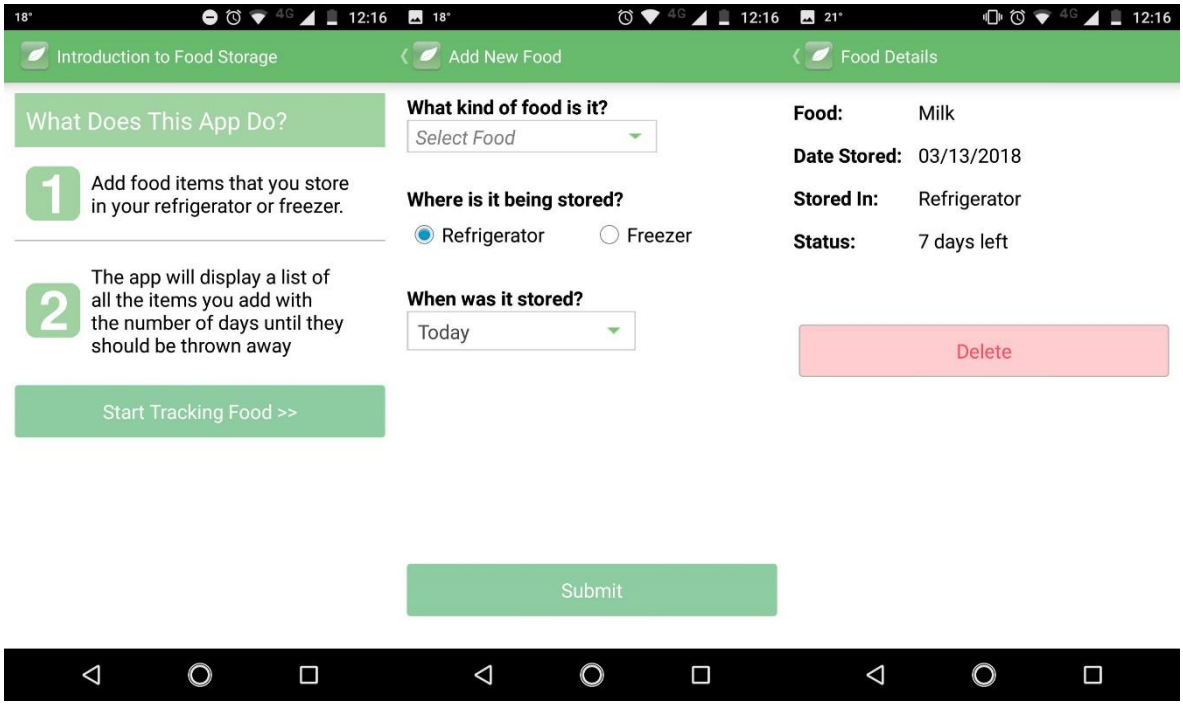

Figure 4: Is My Food Safe? - Home screen, Add item page & Detail page

My Food Storage is a mobile application which helps to track what item is in user's fridge? With a simple UI page to add a thing and another for the simple listing them. It also provides edit feature to update and delete to remove from list(Food Storage, 2014).This app has

reviewed by two people with 2.0 out 5 rating given and have not included in-app purchase module. In authors'opinion, this app needs more reviews.

2.5 FOOD SAFETY APP

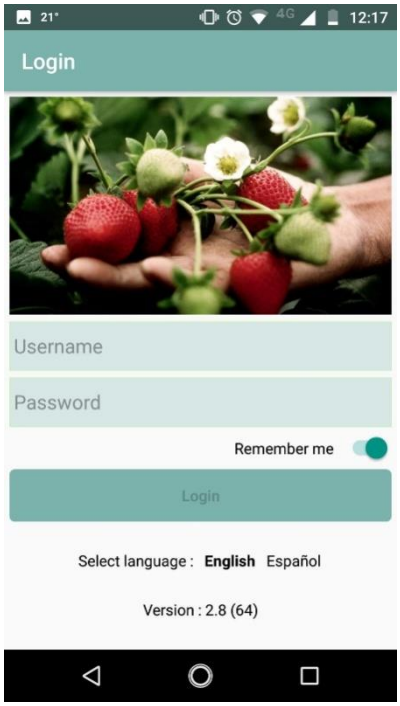

Figure 5: Food safety app's Home screen

Food Safety app is a mobile application allows reporting of the pesticide in food. When internal audit needed, and government mandatory inspection report can be generated by it quickly. This app requires a user account and username password to log in. This app is owned by Reiter Affiliated Companies, LLC and last updated on 16th January 2018 (Food Storage, 2014). This app has wholly reviewed by 17 people with 2.8 out 5 rating given and have not included in-app purchase module.

2.6 COMPARISON – AN ANALYSIS OF GAMES

Those apps are informative about how food is storing correctly. Some app helpful to storage tracks, help to pass food safety standard exams, and some are helpful to generate reports. Food safety toolkit application is very impressive. There are various features like information about food safety tools are provided, excellent visualisation of the toolkit. The user interface is also fantastic. GMP food safety application offers the functionality of understanding a law of food safety. The critical feature of this application is that it is the manual of food safety.

All these applications are perfect for food safety and food storage information. All these applications include the food safety toolkits, food safety certificates, and way to use food safety tools. They all are targeting the mature audience. Any of these applications do not include the gaming structure and fun way of learning the food safety information. All this information provided by these applications are very tedious for children to understand. By reviewing all these applications, our opinion is no a single game targets the children aged between 3 to 5 year.

Our game's (food storage for kids) primary goal of is to provide food safety awareness to kids in a fun way. Kids can quickly get the knowledge about food safety while playing the game and the important thing is they will not get bored. There is no game on play store that targets the kids and spread awareness about food safety around kids. After studying all this application about food safety, the conclusion is they all are targeting an audience of food industry person, not younger mind ages of 3 years to 5 years.

Game name	Owned by	Rating	Demographic	Downloads	Current version	Total Review	In-app	Language	Platform
Food Safety Toolkit	State Food Safety	3.6	Food inspector	1,000 - 5,000	7.1.6	8	No	English	Android & Iphone
GMP Food Safety	Mori Global Solutions	4.7	Professionals in Food Industry	1,000 - 5,000	1.9	19	Yes	English	Android
Is My Food Safe?	Eat right	5.0	Any one 3+ year old	500 - 1,000	2.1	2	No	English	Android & I phone
Food Storage	Jim Moody	2.0	Personal use	100 – 500	1.0	2	No	English	Android
Food Safety App	Reiter Affiliated Companies	4.4	Food inspector	500 - 1,000	2.8	17	No	Spanish, English	Android

Table 1: Apps data analysis

3 METHODOLOGY& RISK MANAGEMENT

3.1 WATERFALL VS AGILE

Waterfall model is simple, and each phase is processed and completed one at a time. Works well for smaller projects where requirements are very well understood (Agile & Waterfall Methodologies – A Side-By-Side Comparison, n.d.).

Agile is a little complex but best if requirement may change in future and want to work more than one phase at a time. It also better if more than one person is working at once at a different aspect of the development stage (Agile & Waterfall Methodologies – A Side-By-Side Comparison, n.d.).

3.2 WHY IS AGILE BEST FIT?

As our requirement seem fixed for now but may change due to time limitation or any risk management reasons it might change. Our team wants to work on design and coding at once in the project, so the obvious choice becomes agile to us.

3.3 RISK MANAGEMENT

Risk Management implies chance to control and relief. To start with, Developer must recognise and plan. At that point, be prepared to act when a risk emerges, drawing upon the experience and information of the whole group to limit the effect to the task(Risk Management in Software Development and Software Engineering Projects, 2018).

Android game development requires high definition image, unique game engine and coding knowledge of particular engine. It needs a precious knowledge of visual effects and animation, and it also demands the understanding of human-computer interaction. As we will use most popular game engine UNITY as a backend, it is time-consuming to create a game. This project has a 40 days' time, so time can create a question on adding some features. This game is the real-life scenario of food safety so the finding of that type of scenario can be tricky. This type of risk is included in application and system architecture.

Risk management technique that would be used loss prevention and separation. Loss prevention method will help us to identify the risks that will reduce the functionality of game and help us to conquer the risks. Loss prevention method all about identifies risk and decide which can be overcome, and some of cannot overcome by given time limit. The separation method about identifies risk and divided into attending by two different individuals. This method helps us to identify risks about the development of the game and which risks will be prioritised.

4 OUR GAME

4.1 GAME TECHNOLOGY SELECTION

We will make an Android 2D game using android studio and Unity game engine. We will use-mention tool to develop it. Android Studio is the essential tool for improving android game and application. Unity is the powerful tool for game development and used worldwide by the game developer, and it also provides free animation and other functionality. Adobe Photoshop is almost used image editor, and it will help us to edit images about food safety and make food storage game visually stunning. Microsoft world is the best tool for writing reports. We are developing the android game so that moto g5 mobile will be used for testing. Android studio and its connection with the unity will be the complicated task, but it will help us to learn a new way of developing the game. The agreement is an umbrella term. There are lots of functionality included in Unity we will probably use the free feature for game development. We will also use some copyright images and some free images for the game. The primary goal of this game is to provide Primary visualisation and excellent user experience to kids.

Tool	**Uses**
Android studio	For the editor of code
Unity	For game engine
Adobe Photoshop	Image editor
MS Paint	Image editor
Microsoft Word	Document writing
Microsoft PowerPoint	Makin presentation
Moto g5s Mobile	For testing

Table 2: list of tools will be using for this project

4.2 GAME STAGES

We want to make an android game called Food storage for kids. This game will demonstrate the where food can be stored and which food should throw to the bin.

Example: There is fresh apple user want to store. Secondly, there is three option of storage refrigerator, deep fridge, and an open basket, where the user will put? The answer is refrigerator obviously! This idea all will show in graphics where the user can drag and store food in right way.

There will be three stages in the game. In the first stage, the item will be easy to choose, and second stage moderate level difficulty and the third stage will be hardest. Each stage will have five items to put, and next level can be unlocked on completion.

4.3 WORK BREAKDOWN

GUI&UI		
	Making splash screen	
	Finding/making images	
	Making an animation for level 1& 2& 3 - entering food in screen animation - Correct answer animation - Wrong answer animation - Completion animation	
CODING		
	Coding for level selection	
	Coding for level 1	
	Coding for level 2	
	Coding for level 3	
	Random Food item on load	
TESTING		
	Splash screen	
	Level 1	
	Level 2	
	Level 3	
DOCUMENTATION	Proposal and final documentation	

Table 3: Work breakdown

This table shows the work breakdown in brief of food safety game development. There are Four sections in this table. GUI (Graphical user interface) and UI (User interface) is a vital part game developing and this the place where the user will interact with the game. Patel will develop the splash screen, and Parmar will perform all the images and animation with images. The second section is the coding. Coding is the very tedious task of development of any software. The task will be performed by both of us equally. Both we will also perform testing by dividing the tasks. Documentation will also be divide mutually by us with some portion will have written by Parmar and some of will be written by Patel.

4.4 WORKLOAD METRICS

Below are the proportions of the workload divided among the members

Name ***Question***	***Parmar Pratik***	***Patel Pratik***	***Total***
Proposal documentation	40%	60%	100%
Proposal Presentation	50%	50%	100%
Designing, UI making	40%	60%	100%
Backend Coding	60%	40%	100%
Final Documentation	50%	50%	100%

Table 4: Work-load metrics

5 DIAGRAMS

5.1 NAVIGATION DIAGRAM

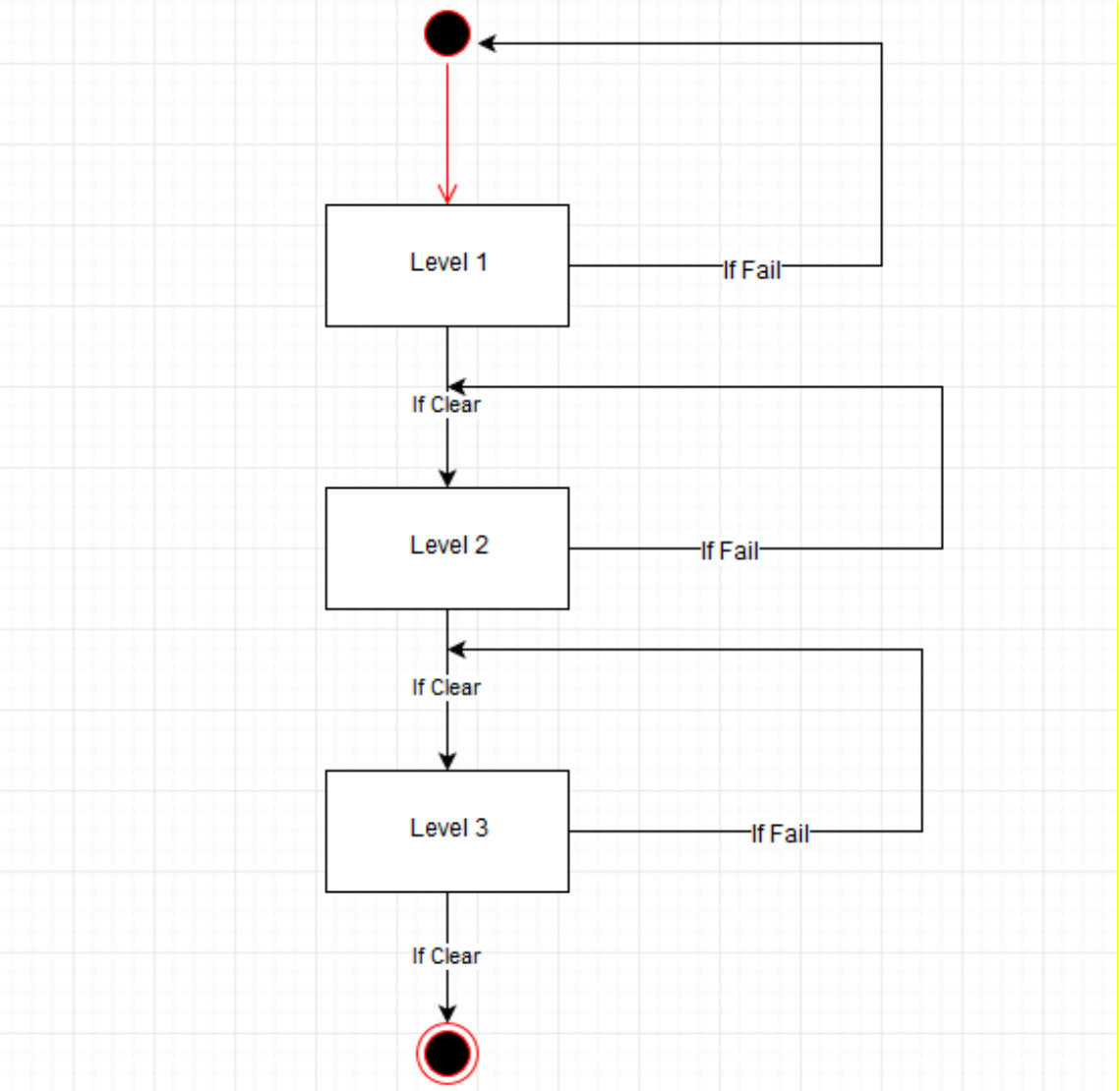

Figure 6: Navigation Diagram

Navigation Diagram indicates the flow of the system. Navigation diagram of food storage game is quite simple like any standard Android games. If the user fails to complete level 1, the user can play level 1 again and cannot move to level 2. This process will follow with all three levels. If the user stops playing the game at any level user can resume that level.

5.2 USE CASE DIAGRAM

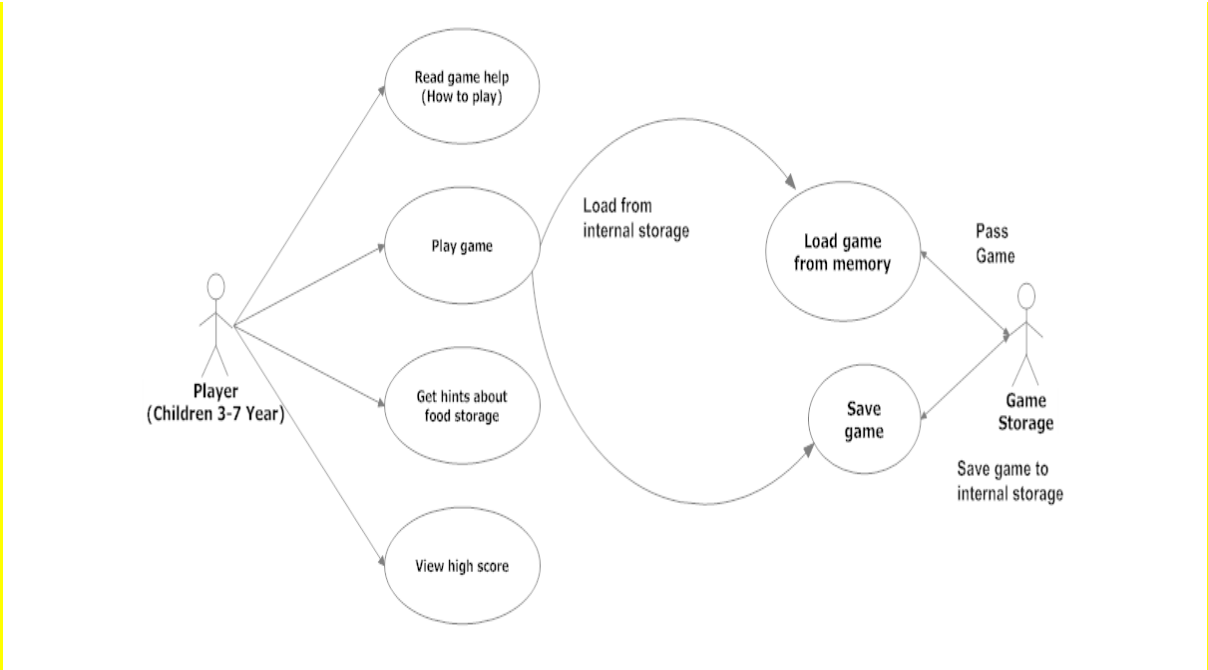

Figure 7 Use Case Diagram

Use case diagram depicts the interaction of the user with the system. This diagram indicates that how the user will interact with the game. Users can perform several tasks. The user can read the game. The user can play the game and select levels that the user wants to play.

6 GAME USER INTERFACE

6.1 LANDING SCREEN

Figure 8: Main Screen

This user interface is created in the android studio with the XML coding. This user interface is the landing screen of the game; it means this the first screen user will see after opening the game application. Play button on the screen is flashing continuously, and it will be fun for the kids and background music keeps playing. There is a logo of our game in the background can be seen.

6.2 SELECT LEVEL SCREEN

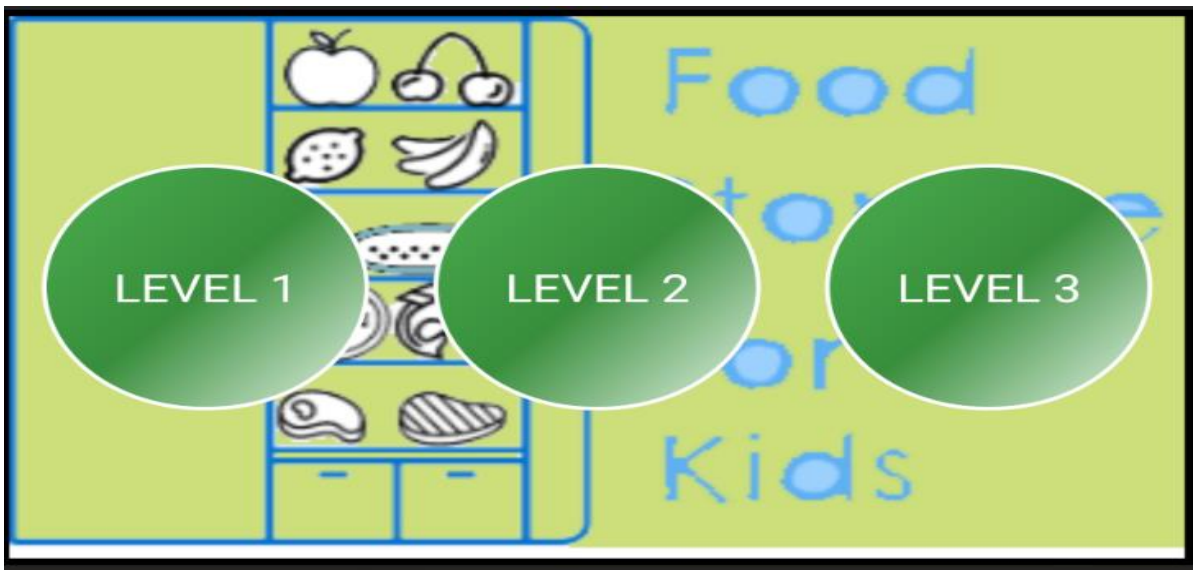

Figure 9 Select Level Screen UI

This user interface is a level selection screen for the user. The user can select the level that they want to play in the game.

6.3 Level screens

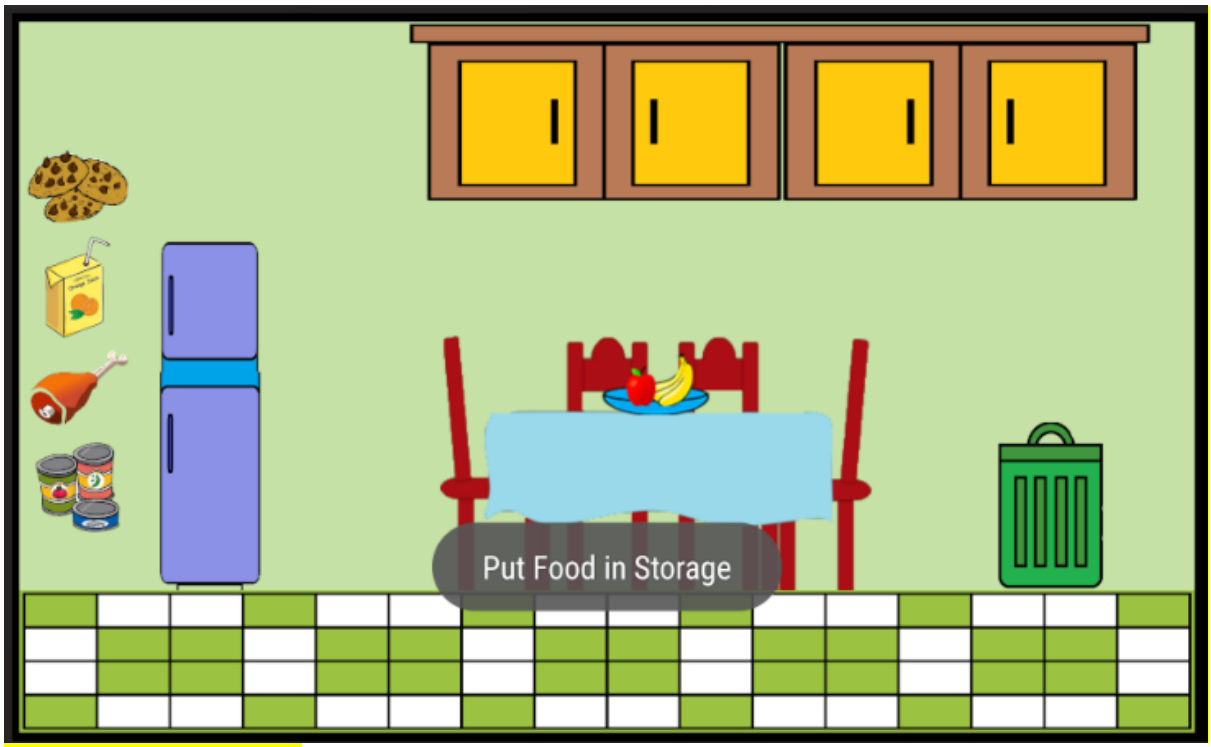

Figure 10: All Level When Load

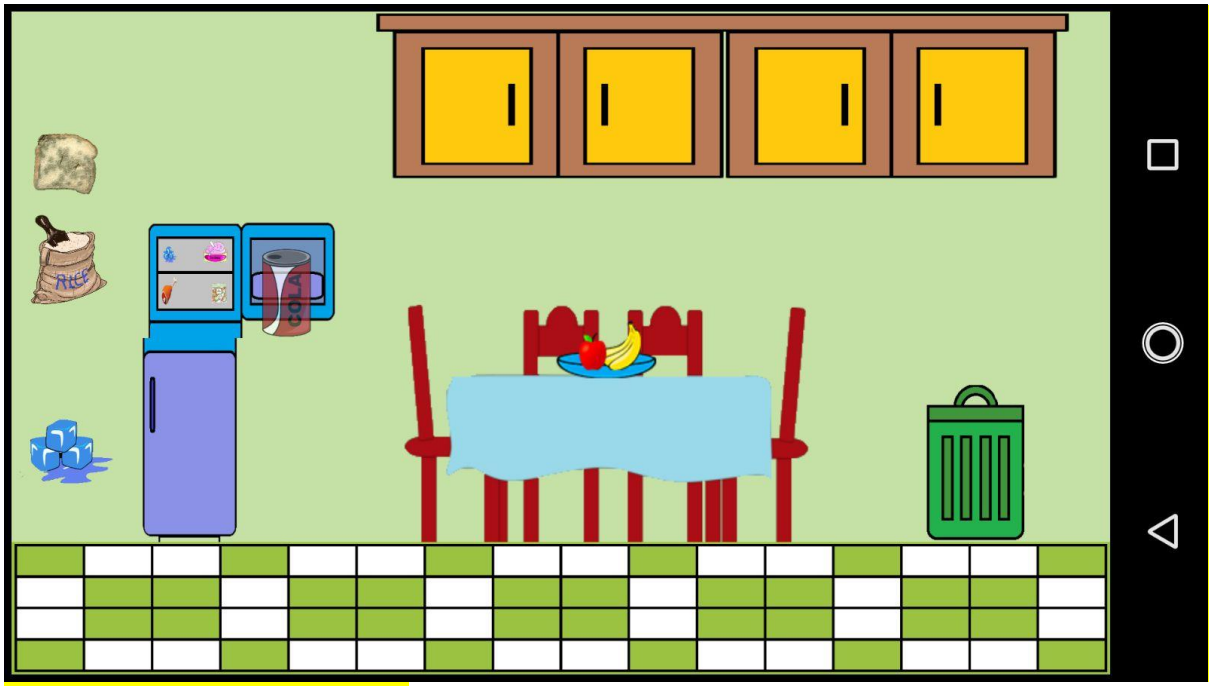

Figure 11 Food Item Scroll on Deep Fridge

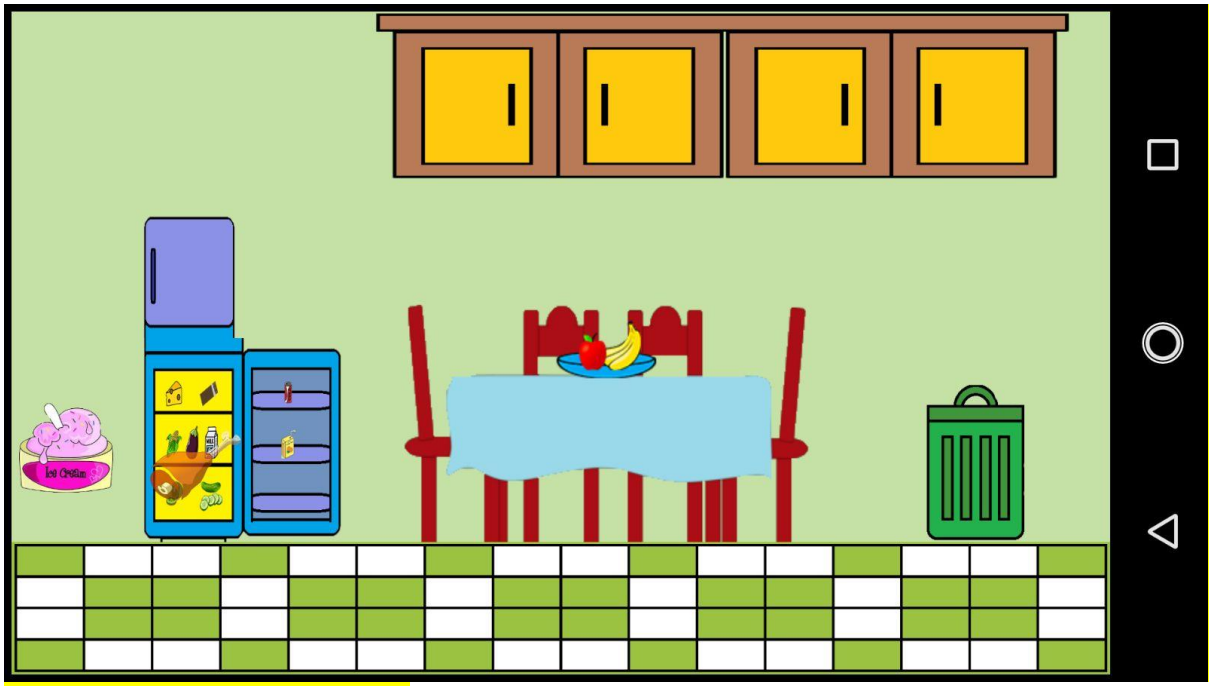

Figure 12 Food item Scroll on Refrigerator

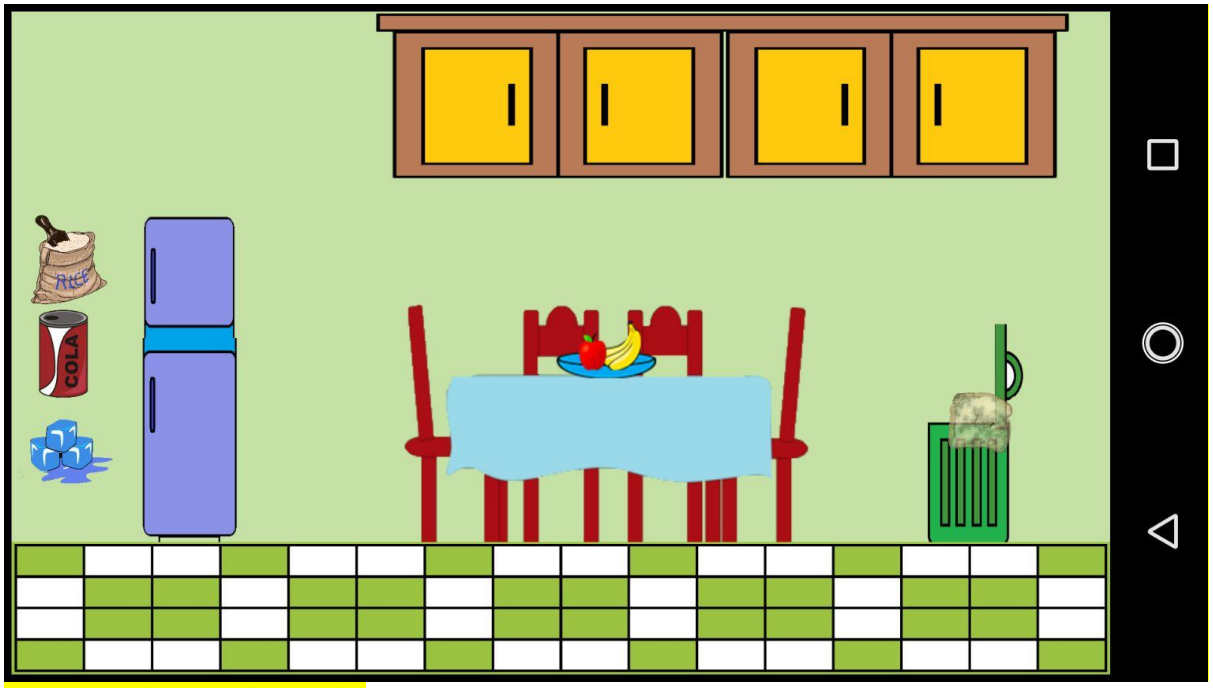

Figure 13 Food item Scroll on Dustbin

All these interfaces showed in images are the level screens. This interface is the actual game. When the user sees the food coming from the left side and user must select proper storage for the food. In the image can see that if user select cola than user got the message that it should go in the fridge and if the user tries to put in the cabinet then it will automatically come to its actual place. The user will have to select proper food storage for the adequate

food items that you can move to the next level. If User put the place in right food storage after that user will get the message that you are right. There is an only one scenario in the game right now; the kitchen is the place that we used in this game for right now, There are many other places, and plot can be added for making the game professional.

7 Coding

7.1 RANDOM IMAGE SHUFFLING CODING

```
public int[] getRandomNumber(int upto)
{
    int[] numbers = new int[upto];
    for ( int i = 1; i <=upto; i++)
    {
        numbers[i-1] = i;
    }
    shuffleArray(numbers);

    return numbers;
}
//Reference:// Implementing Fisher-Yates shuffle
static void shuffleArray(int[] ar)
{
    // If running on Java 6 or older, use `new Random()` on RHS here
    Random rnd =  new Random();//ThreadLocalRandom.current();
    for (int i = ar.length - 1; i > 0; i--)
    {
        int index = rnd.nextInt( bound: i + 1);
        // Simple swap
        int a = ar[index];
        ar[index] = ar[i];
        ar[i] = a;
    }
}
```

This the most crucial coding in the game. This coding shuffle images in all levels of the game. The array of number is created for the shuffling, and an array is passed in the function in shuffle array, and a random variable is used for picking up the images by its' ID for the shuffling.

8 GAME IMPLEMENTATION & LIMITATIONS & LEARNING OUTCOME

8.1 GAME IMPLEMENTATION

Game implementation is all about how we started to make a game and how we took decisions to create a game in such a short time. We began to develop a game with the selecting scenario for the game levels. After then we implemented a basic wireframe on the notebook, and we decided to design those layout in the android studio. We choose a kitchen as a scenario, and we choose five storage locations like cabinet t, refrigerator, basket on a table, dustbin, deep fridge. We find the images of different food items and divided into three groups by the difficulties of the items. Then after we started with the making UI that shows the kitchen with the division into different images.

All the Food items and Food storage arranged systematically and placed in order separately in the kitchen. The kitchen includes a vibrant green background with a tile flooring. To make the food draggable via touch, we put an ice cream image draggable and deep fridge will detect the appropriate interface. When you drag an ice cream in a deep fridge it will look like deep fridge will open and food will be stored in the deep fridge, this same logic has been applied to all the interfaces, food items and food storage. After we implemented the random image shuffling logic,to change food items every time user selects the level to play and initially we decided to place 5 items in level 1, 6 items in level 2, 7 item3 in level 3 but changed it to only 4 items in each level to justify the random logic and feedback given by our friends. The reason was to change that is to make the image size bigger and easy to drag.

8.2 LIMITATIONS

There are several limitations of this game. This game is compatible with only android mobile phone users. It cannot work correctly on a smart android television or an android tablet pc. Food safety game is developed entirely in an android studio, so it has some limitation. Android Studio is a powerful tool for Android application development, but it is not very useful for the animation and sound effects. A score of the game is not added due to the time limit, and we could not get the wrong message due to the time limit.

8.3 LEARNING OUTCOME

There are many things that we learned while developing food storage game. Unity is the platform that was selected by us for the game development. We learned Unity, but it is very tough, and the clock was ticking so we decided to develop the game in the android studio. Android Studio is a widely used tool for android application development. We learned deeply about the android studio. Image processing is the tough part of this project. We learned how to use free images in the game and how to edit the Sprites using Photoshop. We learned to edit the images in Photoshop. Java is the back-end language for the android studio; we learned deeply about java and learned some typical code for game developing.

Documentation is the vital part of any research project. We learned the format of documentation while writing reports.

This subject (hot topics in software) gave us the opportunity for exploring ourselves and learning something new. Gaming is a new subject for us; It is the first time where we understood what research means and how to do research. Study is a large task that involves reading, researching, learns new platforms. We learned that how to apply proper research method and finding solutions. We learned developing diagram which shows the flow of the game.

To put into a nutshell, this was a pleasant experience for both of us we worked as a real team together. We learned how to be a team player and work as a team. We divided our work and finished it on time; now we have some time management skill also.

9 FUTURE OBJECTIVES

9.1 AS ASPECT TO DIFFERENT COMPATIBILITY

Food storage application can be updated with features that help assist children who are suffering from autism and colour blindness to play the game smoothly. The functionalities that can be added are the following:

- Icon size can be increased
- Larger images that scale with the window size, e.g. a tablet or a TV screen
- Add additional hints
- Alerts can be more noticeable for example; a flash of the screen and a sound
- Add subtitles to assist colour blind children in playing the game
- More sound effects can be added
- Animated images can be added
- Interaction of the user with this game can be improved by changing graphical user interface so that the user feels like they have total control over the game
- Simple food storage safety scenarios can decrease difficulties of the game and level compared to current one.
- We can show a video tutorial to ensure children understand how to use the game
- Images with cartoons and animations can be added to educate kids about food storage and its importance
- Sound and hints can play alerts and navigation of game also can be played by music to help users and lead them to complete levels.

9.2 GAME DIFFICULTIES AND LEVELS

Game difficulties can be increased compared to current one, and the other option is let the user select the difficulty level by giving them three options easy(beginner), middle (intermediate), hard. The user can choose the difficulties and level will be played according to difficulties chosen by the user.
There are currently three levels in the game with different food items and different scenarios. More level can be added compared to current levels. There is currently one scenario with kitchen, many other places in a kitchen that can be added.
The levels can be completed with a star system if the user ends a level without any wrong attempts and within the timer, the user will get three stars and can use these stars to their advantage in future levels via a hints system.

9.3 VIDEO TUTORIAL AND QUESTIONNAIRES

Video tutorials of the food storage safety can be added to educate the user about the food storage. Video tutorials can show that how to rubbish the contaminated food and how to store the food that can be kept from being infected. There are several tasks related to food safety and food instrument safety like how to clean the food instruments and where to store it, so it can stay diseases free can be added in videos for educating users of the game.

Questionnaires are the test game that can be added as a part of the game. The video will be shown to the kids, and afterwards, there will be questions for the users depending on the videos.

10 MEETINGS

10.1 MEETING 1

The first meeting was all about discussing the research topic. We debated selecting research topic that can improve our knowledge and something useful. We decided our research topic about food safety, and we talked it with our professor Mr Fadi, and we appreciate that he leads us in the right direction and suggest something that we can work later. This meeting was significant for the research, and at the end of this meeting, we finally decided to develop a food storage safety game for younger children 3 to 5-years old.

10.2 MEETING 2

This meeting was all about the research. We discuss the research criteria and what research method we will use for the study. We download some application related to food safety from play store. We review the application and gave our feedback about them and record it.

10.3 MEETING 3

This meeting was about finalising the proposal and completing the literature review. We discussed writing the proposal of the food storage game. In this meeting, we also talked developing a game using unity or android studio, and we concluded that we would improve it by using unity. We watched some learning tutorials videos on YouTube to learn unity .

10.4 MEETING 4

In this meeting, we thought that learning unity might take too much time and we have an insufficient time to complete our research and get to the solution, so we decided that we will develop the game in the android studio. We started finding free images for the game in this meeting. We also started editing the pictures for the better layout of the game that was a very tedious task because we must go through Photoshop for this. We also discussed and learn about java coding and watch some videos of java coding. We divided our work related to coding and documentation, and we started core programming after this meeting.

10.5 MEETING 5

We discussed what the problem faced by us in this meeting. We showed work done by us to each other and gave feedback about each other. We are trying to solve a problem that we were facing at that time as a team together. We already developed the User interface of the game, and we also showed it to some of our friends and got feedback about it. We also started to code for drag and drop of the food items in the place in the game. It was the week before the final, so it was the critical situation.

10.6 MEETING 6

This meeting was all about to giving the final touch to the food storage game. In this meeting, we talked about the finalising the levels of the game and the shuffling of the images in the game. We also discussed the final documentation and presentation of our research. It was the last meeting, so we must consider all the problem and queries related to the game, and we must fix them. We already solved the problem related to game playing. There are still some problems that we were discussing and looking for help from our classmate and internet.

11 REFLECTIONS AND REVIEWS

11.1 Pratik Parmar (170006183)– Project Leader

SELF-REFLECTION ON PROJECT WORK	
Student name	Pratik Parmar
Student ID	170006183
Role of Pratik Parmar (170006183)	He is the project leader, lead developer, and secondary UI designer. He will assign a task to make sure all done on time.

Table 5:Reflection (Pratik Parmar)

11.2 Pratikkumar Patel (160013147)

SELF-REFLECTION ON PROJECT WORK	
Student name	Pratikkumar Patel
Student ID	160013147
Role of Pratik Parmar (170006183)	He is an invaluable team member, lead UI designer, and secondary developer.

Table 6: Reflection(Pratikkumar Patel)

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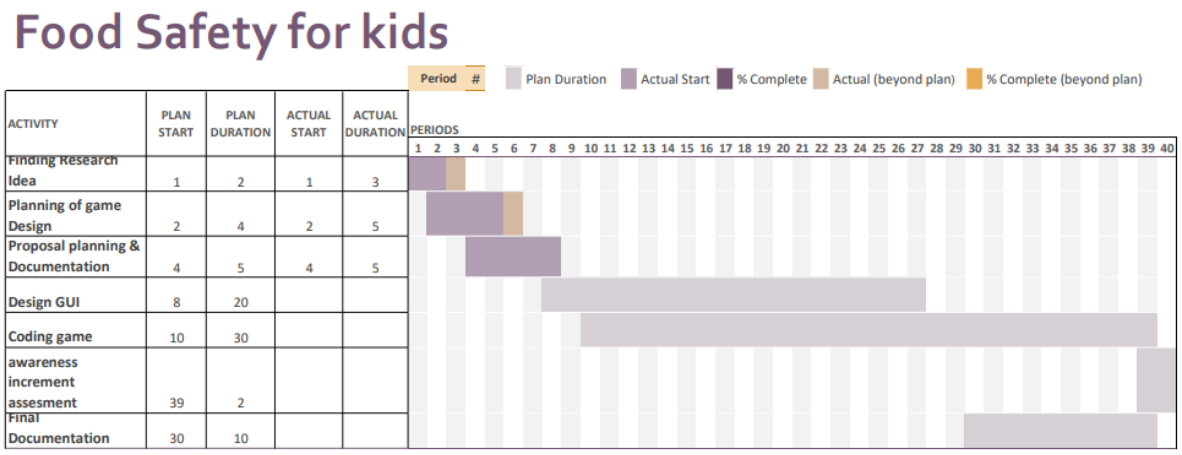
(WHO, 2017; Food Safety Toolkit, 2017; Is My Food Safe?, 2016; GMP Food Safety, 2017; Food Safety App, 2018; Food Storage, 2014)

APPENDIX A: GANTT CHART



ACTIVITY	PLAN START	PLAN DURATION	ACTUAL START	ACTUAL DURATION
Finding Research Idea	1	2	1	3
Planning of game Design	2	4	2	5
Proposal planning & Documentation	4	5	4	5
Design GUI	8	20		
Coding game	10	30		
awareness increment assesment	39	2		
Final Documentation	30	10		

Figure 14: Gantt Chart

We have started this project from date 28th Feb 2018. In our opinion, it will take 40 days to finish it. We have given designing and coding most days. At the start, we will focus on UI part. The design has given 30 days which also shared with the coding of the back end. In last we will have documentation part which will finish on by concluding of our findings.

APPENDIX B: IMAGES REFERENCES

1. **Apple**
   http://www.foodclipart.com/food_clipart_images/shiny_red_apple_for_teacher_0515-1007-2718-1227.html

2. **Cola**
   http://clipartmag.com/coca-cola-clipart/

3. **Juice**
   http://www.foodclipart.com/food_clipart_images/juice_boxorange_juice_0515-0906-2514-3028.html

4. **Chocolate**
   https://cliparts.zone/cute-chocolate-cliparts/

5. **Tomato Sauce**
   http://clipart-library.com/tomato-sauce-cliparts.html/

6. **Grapes**
   http://www.vancitymommyd.com/3060/grape-clip-art-14-11-2017/grape-clip-art-grapes-clipart-3-clipartix-free-clipart/

7. **Eggplant**
   http://www.clipartpanda.com/clipart_images/eggplant-clip-art-vector-27762955/

8. **Milk**
   http://niceclipart.com/11083/milk.html

9. **Cucumber**
   http://moziru.com/explore/Cucumber%20clipart%20small/

10. **Ice cream**
    http://www.clipartpanda.com/categories/ice-cream-clipart-with-transparent-background

11. **Meat**
    http://clipart-library.com/meat-cliparts-free.html

12. **Banana**
    http://cliparting.com/free-banana-clipart-13639/

13. **Frozen Veg**
    https://clipartxtras.com/categories/view/ca920e7c048f28c788dd619f152e03e45906b966/frozen-peas-clipart.html

14. **Cheese**
    http://clipartpost.com/cheese-clipart_14932/

15. Ice cubes
http://worldartsme.com/ice-cubes-clipart.html#gal_post_35015_ice-cubes-clipart-1.jpg/

16. Garlic
http://moziru.com/explore/Garlic%20clipart%20animated/

17. Potato
http://www.clipartpanda.com/categories/potato-clip-art-free

18. Onion
https://openclipart.org/tags/onion

19. Corn
http://clipartmag.com/thanksgiving-corn-clipart

20. bad Bread
http://clipground.com/moldy-food-clipart.html

21. Tin food
http://laoblogger.com/canned-food-pictures-clip-art.html

22. Oil
http://clipart-library.com/cooking-oil-cliparts.html

23. Flour
http://www.ourclipart.com/clipart/bag%20of%20flour%20clipart/