

# Cognitive Tear Down (Module 02)

Ying Chen (NUID 001217297)

## Game: Sudoku

- Simple but engaging interaction design with a certain level of complexity (Mauro-AngeyBirds, Mauro-FlappyBird)

The first user experience is simple with certain structures of grid layout based on the familiar math tricks; but when playing the games longer, different levels and numbers could provide some complexity for people to continue to engage in the game.

- Certain learning curve and positive learning transfer (Mauro-FlappyBird)

The basic idea is from the math tricks that most people would already have some ideas which form the foundation of people's historical knowledge. The new game makes the new system familiar to the users from the first interaction to the final objectives, which would encourage the users who like the tricks to continue to play the games.

- High degree of control/display compatibility (Mauro-CandyCrush)

Touching the numbers to put in the right place in the grid location would create the expected results. Color green shows correct results and color red shows the wrong results. People would learn quickly and have good control to how they want to play the games.

- Good rewards based on fast leveling system (Conrad-VideoGames)

There are flash, easy, medium, hard and expert levels for the game. Users begin with easier ones and easily reach next levels and gain new power and confidence. The immediate reward reinforces them to continue to play. Users can also adapt the more time in higher levels gradually.

- Great design pattern and good mental models and cognitive consistency (Mauro-CandyCrush)

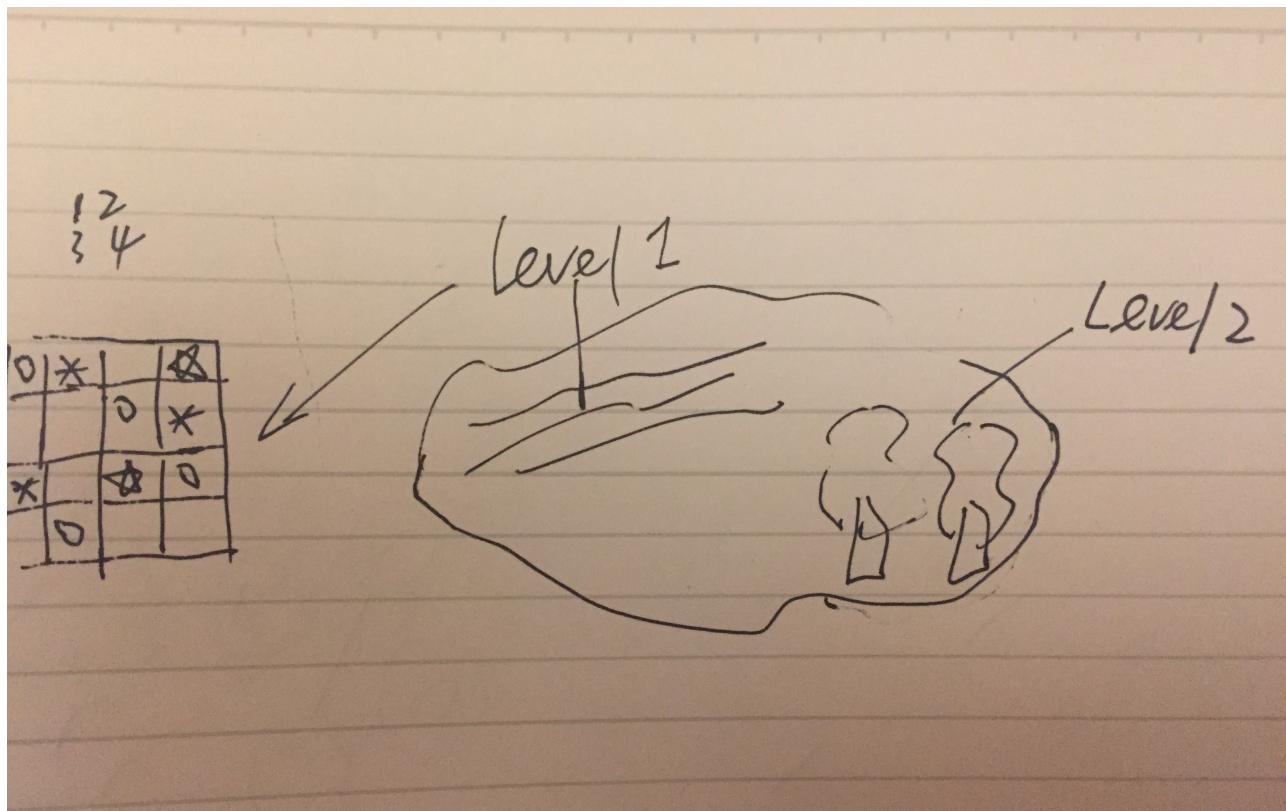
Structural grid layout pattern design and also form a good mental model for users cognition with good teaching conceptual fluency in the beginning, hinting and highlighting the same numbers, at most three error tolerance, scoring with correctness and speed, and sharing with friends.

## A new game: Animal Sudoku

The app concept: build on a compelling story based on the sudoku and more interesting user interaction animal symbols to represent numbers.

Use different animals to represent nine numbers, e.g. bird as 1, elephant as 2, bear as 3, pig as 4, etc. Beginning at the easier levels, such as 2\*2 grid with 4 numbers, it is more hard when going to next levels and then unlocking more animals. Different levels can be in the different places of a big zoo. Different animals can also have different reward to get lottery to get higher scoring or more hints.

A stretch of the game layout is in the following.



Going to different places of the zoos can have different levels of games. Each game should also be very fast to appeal users to dig into next levels or places. Different animals build on the story and also represent different tools so that people can continuously learn and have interests in the game. Exploring the zoos can also create some mystery. Users can also see where their friends are in the locations of the zoo so that users can share their experience with their friends.

## Many Ideas

- **Killer Exergame:**

1. Zoo explorer: with a database of animal and zoo information in different cities, the game could help kids and adults to check in different zoos and check in different animals using maps, motion sensing, camera. Each time the location information would indicate which part in which zoo it is and then users can take a picture of the animals they can see. Compared with the animals in the database, the game could show the image and information of that animal. The more the users help the system to recognize the animals, the higher of the score the users can get. In addition, users can also gather the checked animals to create their own virtual zoo in the mobile phone. Every day, users can feed the animals and manage the zoo by themselves.

Each time there are new animals that the checked zoos have, there would be notifications for those animals with scores to motivate the users to check the zoo again.

2. Virtual pets walking: kids and adults can pick which animals they want to walk every time or keep one as their own pet. Every time they want to exercise either at home or outside, there would be a virtual pet to walk in front of the user in the mobile or play with the user with cute and cartoon images. The system would decide the time length each pet wants to walk or play. The motion sensing would track the steps the users can walk every time. The longer the users walk, the more scores they can get to rank during their friends and also can get more tools to use for their pets, like clothing, balls, etc.

3. Where I played: the layout of the app is a map of the city and surrounding areas users live in. Users can see the places that users surround them recommended where they can hang out with friends, eat, exercise, etc. for outside activities. By clicking on each point of places, it can show all the titles that the other users want to displayed and then users can also click into the titles to see detailed images, short texts, and videos. The more one users shared, the more they can earn some points for exchanging possible coupons for places, restaurants, museums, malls, etc.

- **Life Labeling:**

1. Into life styles: the app would list several interesting life style names, like food crushers, shopping fanatic, movie addicts, etc. Each life style would have some requirement to achieve, e.g. movie addicts would have the users to watch 5 movies in a week, and to have the well-known movies watched already, etc. each step would lead them to a certain level of that life style to achieve the different medals. Users can share with friends with list of medals, list of detailed actions they take to achieve the goals.
2. Inside the circle: the app can gather information from users' social media allowed by the users or created by the users within the app. And then the app can analyse which kind of life label the users should have based on the keywords and related data. Then users can be led into the circle of the that life labels. All the users with the same labels can create group chats to share similar interesting information and find more information from the others.
3. Life chunk: the app can record the activities and time period for each activity every day. Users can check in any time to record and also record mood and include some pictures or texts. Then at the end of the day, the app can analyze the life of the day like what kind of the life domain the day, if there is some time users can use next time for other activities, recommended by the app according to the users regular life style and preferences. Every week or month, the app can also report to the users about the summary of the life during that period of time. Users can also share the analysis with friends and discuss with friends and make recommendations.

- **Dietary Assessment:**

1. Dietary to truth: food making games for users to make healthy food by themselves in the mobile. Users can choose food in the virtual market to check if they know the calorie and if the food is healthy or not. Correct food making online based on the calories can help them to gain points. Then the system asks the users to make actual food in their life to match the food they make online. Cameras are used to recognize how good the users make actual food and then the system would give points to actual food. Points can indicate which level the users can make healthy food based on the calories. Friends can share recipes and food pictures with each other.
2. Dietary alarm: the app is to remind the users to take diets every day. The app asks the users to enter the total calories every day or a certain calorie goal within a period of time. Then the app would track the food for each meal. According to the time the users set, the app would remind the users 30 mins before each meal with very happy and positive music with soft voice to remind the users about how much calories and then what kind of example food is within the scope of the goal. If the app cannot see the picture of the food can meet the goals, the music would turn out to be more warning and not very happy ones 30 mins after the regular meal time with voice. If a certain level of goal is met or is failing, the app would also have voice to celebrate with next level of goals or to warn you about the fail and then re-set the goals.
3. Dietary Doctor: the app is AI-based and data-based online talking doctor specially in the dietary assessment. Users can talk with the app like talking with a dietary doctor, asking about the assessment of the body, whether there is need to on diet, how to make dietary goals, how to exercise based on the special needs and different situations of different people. The app can also provide tons of examples of other similar people who successfully achieve their dietary goals to encourage users to conduct and follow similar plans.