



NUI Galway
OÉ Gaillimh

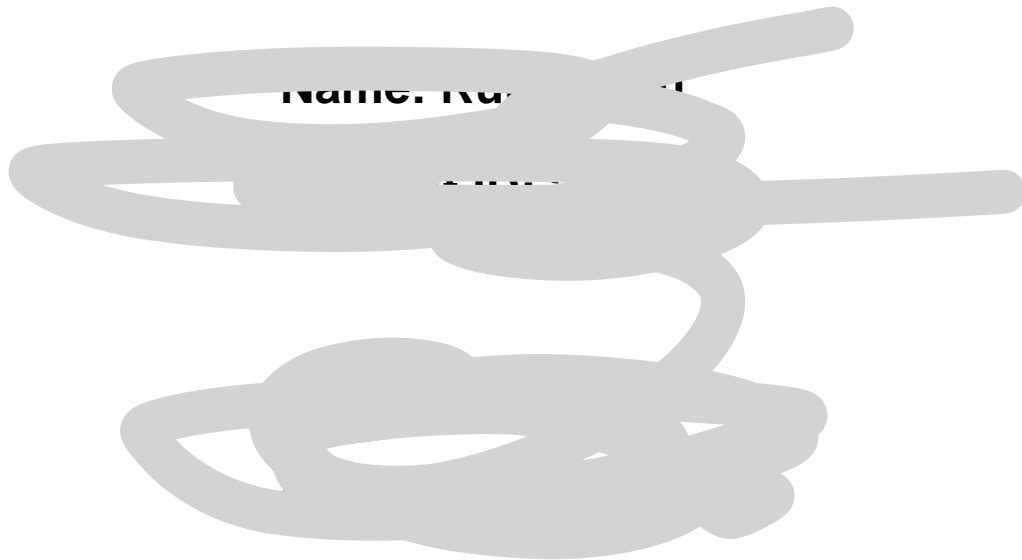


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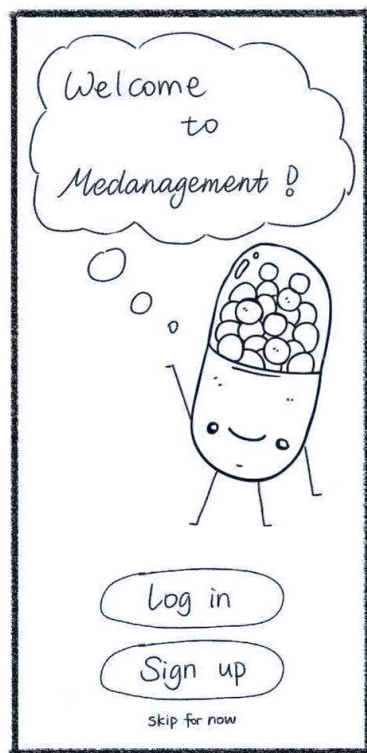
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Chapter 1 Adjustments & Rationale

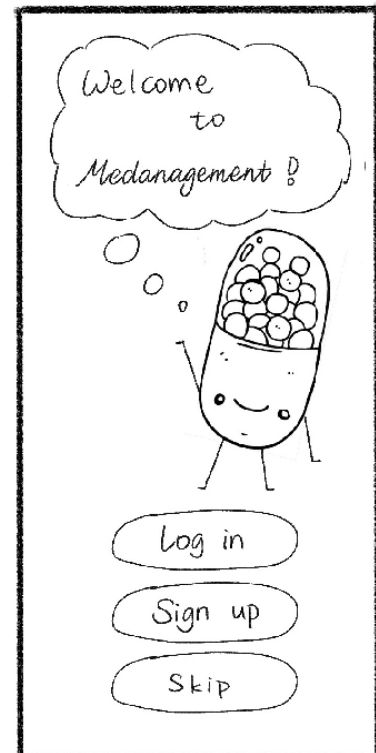
1. Change the “skip for now” to a skip button and it is as big as other buttons.

Rationale: Changing to a button makes it more visible for participants, which improved the visibility of system to more suit Nielsen’s Heuristics.

from:



to:



2. Add a page title (Sign up), confirm password and ‘sign up’ button and a < button to go back to the previous page.

Rationale:

- a. To improve the visibility of system

- b. Double check the password to avoid users wrong typing, which can improve system's error prevention.
- c. If users click a wrong button, they can still go back to change them.

from:

Medication Management And so much more

User name

E-mail

Password

to:

< Sign up

User name

E-mail

Password

Confirm Password

sign up

Medication Management And so much more

3. Delete the “nickname” and add a skip button

Rationale:

- a. Participant think it is not necessary and useless to do that.

Keep thing simple can increase system's visibility and usability.

- b. By adding a skip button to increase user control and freedom to fit Nielsen's Heuristics.

from:

to:

4. Move daily and time related thing to the next page and add a skip button.

Rationale:

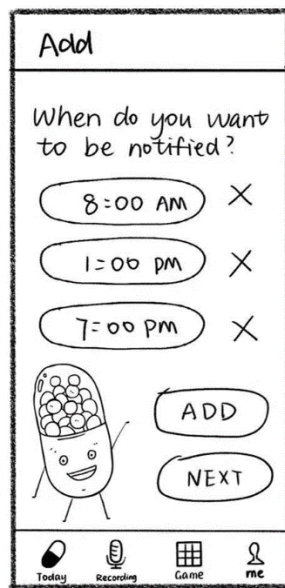
- Set time in a single page instead of two pages.
- By adding a skip button to increase user control and freedom to fit Nielsen's Heuristics.

From:

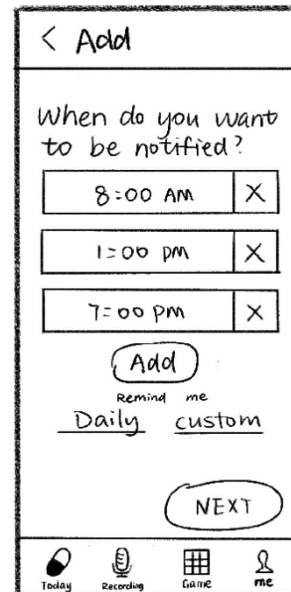
to:

5. Setting time in a single page to prevent errors.

From:



to:

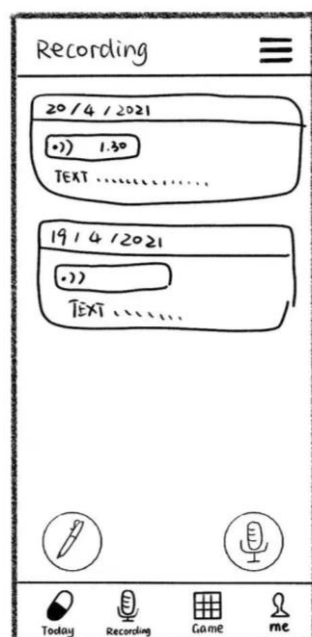


6. Add more skip buttons in different pages. By adding a skip button to increase user control and freedom to fit Nielsen's Heuristics.

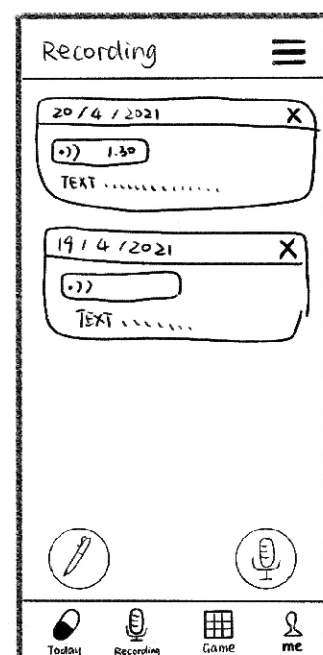
7. Add a ~~X~~ to delete recordings


c. Rationale: By adding a delete button to increase user control and freedom to fit Nielsen's Heuristics.

from:

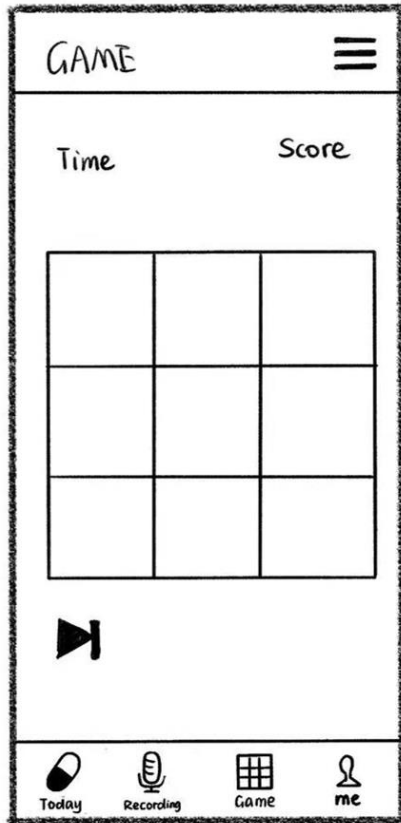


to:

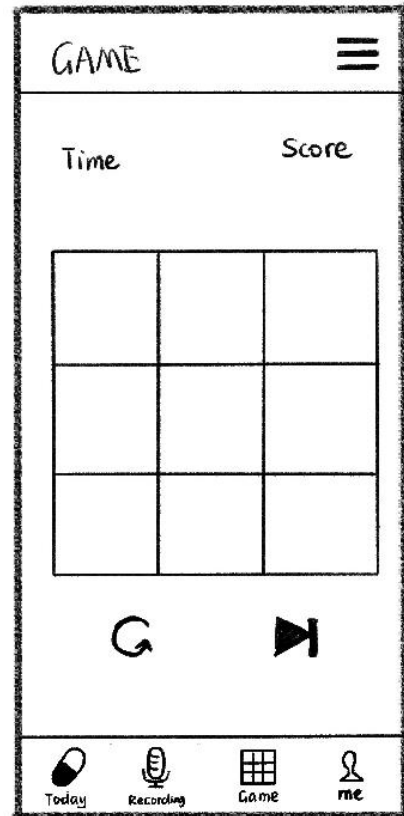


8. Add a restart button  to increase user control and freedom to fit Nielsen's Heuristics.

From:



to:



Interview link

[Interview link](#)

[Interview link](#)

[Interview link](#)

Passw

Chapter 2 Behavioral Change Strategy

2.1 Behavior Understanding

1. Define the problem in behavioral terms.

- Problem: The health of the elderly is getting worse and they need to take a variety of drugs.
- Behavioral terms:
 - Elderly might not take their medicines as doctors' orders.
 - Elderly might not get enough exercises.
 - Elderly might suffer from loneliness.
 - Elderly might not remember their minor discomfort.

2. Select target behavior.

- Elderly do not take their medicine as doctors' orders.
- Elderly do not remember their minor discomfort.

3. Specify target behavior.

- Who: Elder people.
- What:
 - Take the medicine on time.
 - Take the right amount of their medicines.
 - Record their daily health conditions.
- When: Every time when taking the medicine. Every time when they feel uncomfortable.
- With whom: By self or with families and friends or with doctors.
- How often: All of the time.
- Where: At home.

4. Identify what needs to change.

CAPABILITY	OPPORTUNITY	MOTIVATION
Psychological	Physical	Reflective
<ul style="list-style-type: none"> ● Not aware of how important to take medicines on time. ● Not aware that why they want to take more/less medicine. ● Lack of self-control. ● Lack of resilience to make changes. 	<ul style="list-style-type: none"> ● The amount of each medicine is different. ● Each medicine is taken at a different time. ● Doctors and health workers do not have the time and energy to remind every elderly person. 	<ul style="list-style-type: none"> ● Lack of awareness of skip medicines will affect their health. ● Beliefs of energy cost to take medicines as doctors' orders.
Physical	Social	Automatic
<ul style="list-style-type: none"> ● Normal memory and cognition ability. 	<ul style="list-style-type: none"> ● No positive role model performing the behaviors. 	<ul style="list-style-type: none"> ● Mental health (e.g. anxiety, low self-esteem). ● Current mental health (e.g. Intentionally to stay unhealthy to gain attention).

2.2 Intervention options

1. Identify intervention functions.

Com-B Components	Intervention Functions								
	Education	Persuasion	Incentivization	Coercion	Training	Restriction	Environment restructuring	Modelling	Enablement
Psychological capability	✓				✓				✓
Physical capability							✓		
Physical opportunity					✓	✓	✓		✓
Social opportunity						✓		✓	✓
Automatic motivation	✓	✓	✓	✓					
Reflective motivation		✓	✓	✓	✓		✓	✓	✓

2. Identify policy categories.

Links between policy categories and interventions functions are shown in table 3 Michie's research (Michie, van Stralen and West, 2011). Combine with matrix between COM-B and intervention functions, in regulation factors only modelling function is not applied.

2.3 Strategy

1. Identify behavior change techniques.

According to Abraham's research, 26 behavior change techniques are commonly used in interventions (Abraham, Michie and Psychology, 2008). The following behavior change techniques are used.

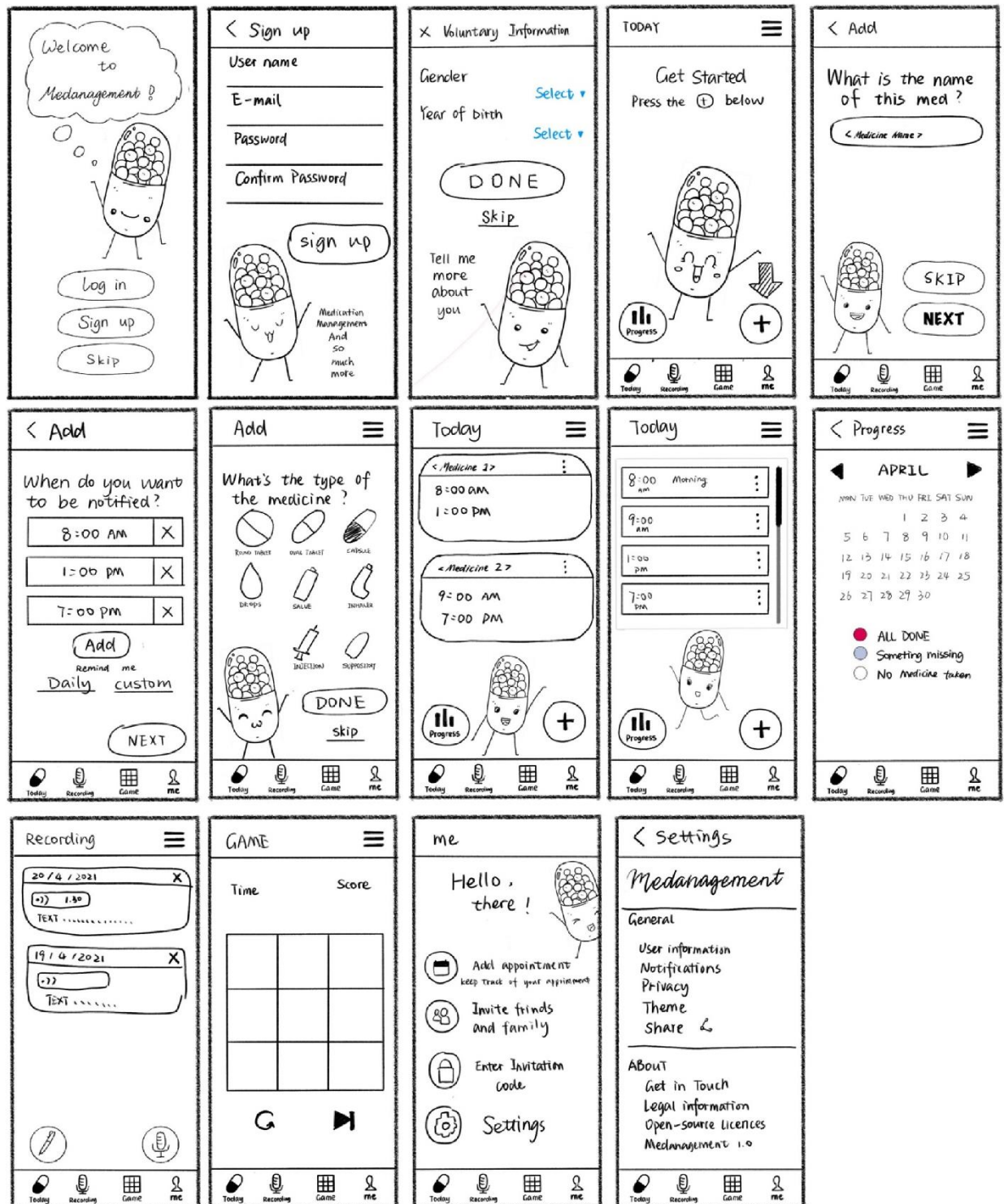
- Prompt intention formation.
Encouraging the person to set a general goal. "I will take medicines on time this month".
- Provide general encouragement.
Congratulation users on using the app regularly.
- Prompt specific goal setting.
Detailed planning of what the users will do. Including when they need to take medicines and the amount taken.
- Prompt self-monitoring of behavior.
A daily diary in record or written form is encouraged.
- Provide feedback on performance.
The user can see a monthly overview(feedback) on their medicine intake situation.
- Provide contingent rewards.
Encouragements are given when users management to take medicine correctly for a certain amount of time (e.g. weekly, monthly and annually).
- Prompt practice.
Prompt users to rehearse and repeat the behavior of regularly medicine intake and diary keeping.
- Plan social support or social change.
Friends and families can view the medicine intake situation of the user.

2. Identify mode of delivery.

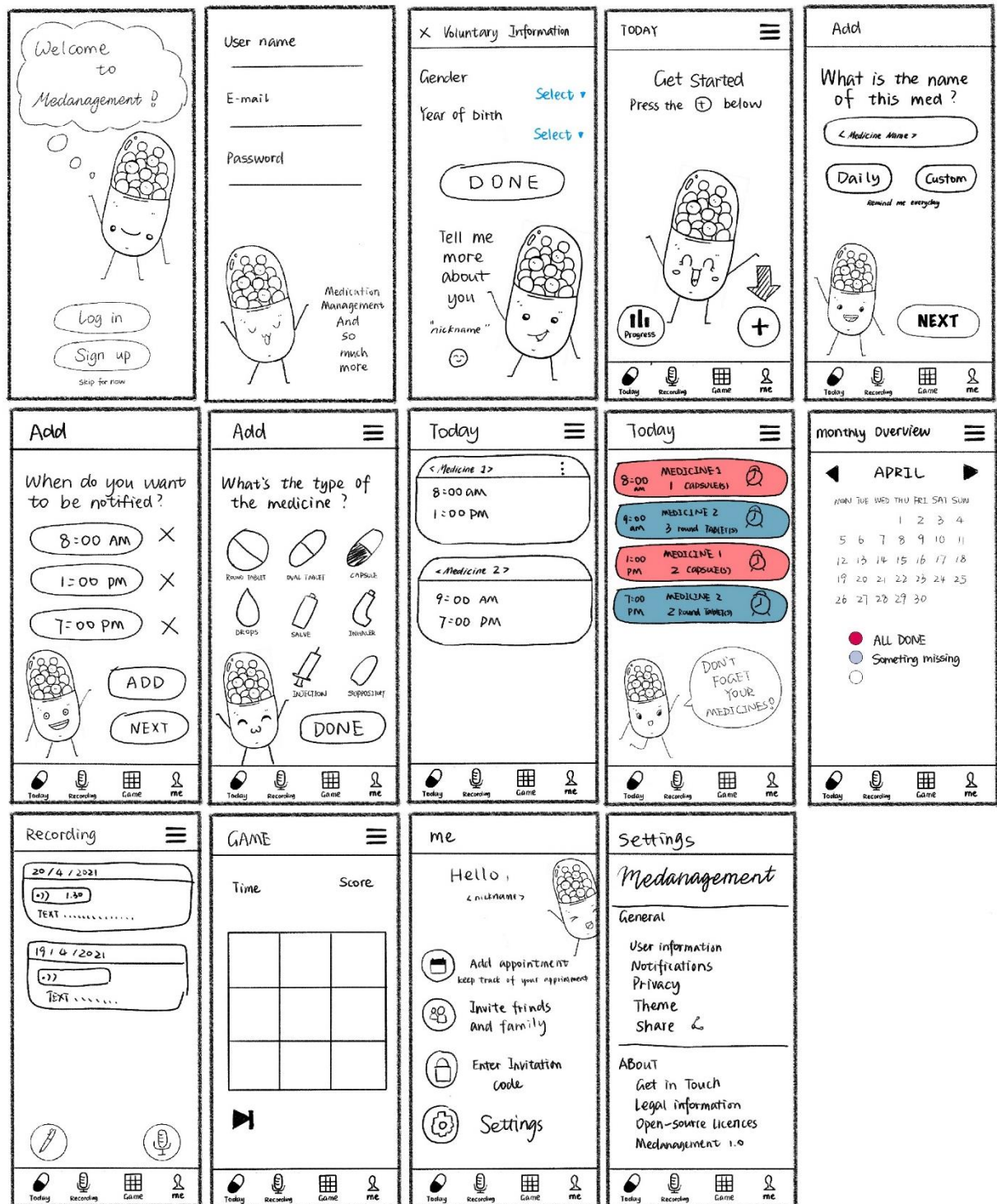
Mobile health applications.

Chapter 3 Final Sketches & Initial Sketches

3.1 Final Sketches



3.2 Initial Sketches



References Link:

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[3] Nielsen, J. (no date) Heuristic Evaluation Ten Usability Heuristics.

[4] Nielsen, J. and Molich, R. (1990) "Heuristic evaluation of user interfaces," in Conference on Human Factors in Computing Systems - Proceedings. New York, New York, USA: Association for Computing Machinery, pp. 249–256. doi: 10.1145/97243.97281.

[5] Michie, S., Atkins, L. & West, R., 2014. The behaviour change wheel : a guide to designing interventions, S.I.]: Silverback Publishing.

[6] Abraham, C., Michie, S. and Psychology, H. (2008) "A Taxonomy of Behavior Change Techniques Used in Interventions," *Psychological Association*, 27(3), pp. 379–387.

[7] Michie, S., van Stralen, M. M. and West, R. (2011) *Implementation Science The behaviour change wheel: A new method for characterising and designing behaviour change interventions*.