

# Process Book

## 2b

Qin Lu



PD622A

Robot Design & Innovation

PD618A

Design Innovation Lab

# Persona



**Name:** Barry Smith  
**Age:** 34  
**Occupation:** Consultant  
**Home:** Dublin, Ireland

## About user:

Barry is a dedicated husband, business owner & father to a 5 years old.

He describes himself as a father first & a consultant second. He wants to know he is making the right decisions for his family.

He & his wife work long, odd hours & they sometimes struggle to manage the childcare responsibilities between them.

Now his child has started primary school, they seem to be sick often. As a result, they have been to PED twice since Sept.

## User quote:

"Building trust in home care can be challenging, but as parents, we are willing to make the effort to trust that the nurse assigned to us is responsible and professional."

## Frustrations:

- Communication is a big problem.
- Relationship of trust is difficult to build.
- Feeling overwhelmed with information & decisions.
- Sometimes want to change care plan, but do not know how could it be.
- Privacy and security are another concern for us.

## Goals:

- Could know everything about child.
- Communication is hoped to be easy.
- Pay more attention on privacy and security of clients.

## POV Statement:

As a busy, anxious father of a young child,

I need to know everything about my child

Because she is our precious child.

# Persona



**Name:** Anne Harrison

**Age:** 48

**Occupation:** Clinical Nurse Manager, Bayada

**Home:** Dublin, Ireland

## About user:

Anne is a Clinical Nurse Manager in home care field, specializing in pediatric and general nursing. She manages cases in Dublin, Kildare, and Leitrim, overseeing the transition of children with complex medical needs from hospital to home care.

Anne's role involves matching nurses with patients based on expertise, ensuring nurses receive necessary training, and conducting risk assessments.

She prioritizes patient care, supports nurses, and manages communication with families etc.

## User quote:

"I am passionate about seeing children leave hospital settings and return home, where they can be cared for by skilled nurses in a familiar environment."

## Frustrations:

- Poor communication between hospitals, HSE, Bayada and client families.
- Lack of centralized, shared platforms to access more information.
- Shortages of nurses leads to a lot of problems.
- High reliance on part-time nurses, making scheduling complex.
- Burnout among nurses due to demanding night shifts and lack of sufficient rest.
- Tense relationships between nurses and families because of personality clashes.
- Families sometimes feel mismatched with assigned nurses.
- Some nurses, particularly international recruits, require additional training.
- Existing training systems are fragmented, with limited integration between hospital-based training and Bayada's protocols.
- Extensive travel requirements for managers to supervise dispersed patients.

## Goals:

- Require a platform to access more information and communication between nurses and families.
- Need more nurses also including part-time nurses.
- Relationships between nurses and families are important to improve.
- International nurses need more training.
- Existing training systems need to be improved to easy and efficient to use.

## POV Statement:

As a clinical nurse manager in Bayada,

I need a platform integrated access more information about client families and nursing management

Because we have loads of responsibilities to cover in the role which left us constantly scrambling to keep up.

# Persona



**Name:** Marry Harrison

**Age:** 30

**Occupation:** Field Nurse, Bayada

**Home:** Dublin, Ireland

## About user:

Marry was born and raised in Ireland and has worked in home care for 10 years. On her daily work days, she drives to clients' houses, which will make work a bit easier than other nurses who don't drive.

Despite having worked in the industry for over a decade, she remains deeply passionate about home care. In her daily work, she demonstrates diligence and responsibility.

She is one of the few willing to use the app, but with others choosing not to, her individual efforts alone prove ineffective.

## User quote:

"Parents need to know everything about their child's care because he or she is their precious child. So, communication timely is very important."

## Frustrations:

- Lack of effective communication in Bayada internally and also with client families.
- Never get feedback from management such as CNM after reporting important or emergency issues.
- Overworking puts pressure on nursing staff and lead to exhaustion.
- Inflexible in granting sick leave, which poses a serious risk, particularly when caring for vulnerable patients.
- Tense relationships with families, such as racial discrimination.
- A new app Alaya and process inefficiencies, leading to remain paper handover.

## Goals:

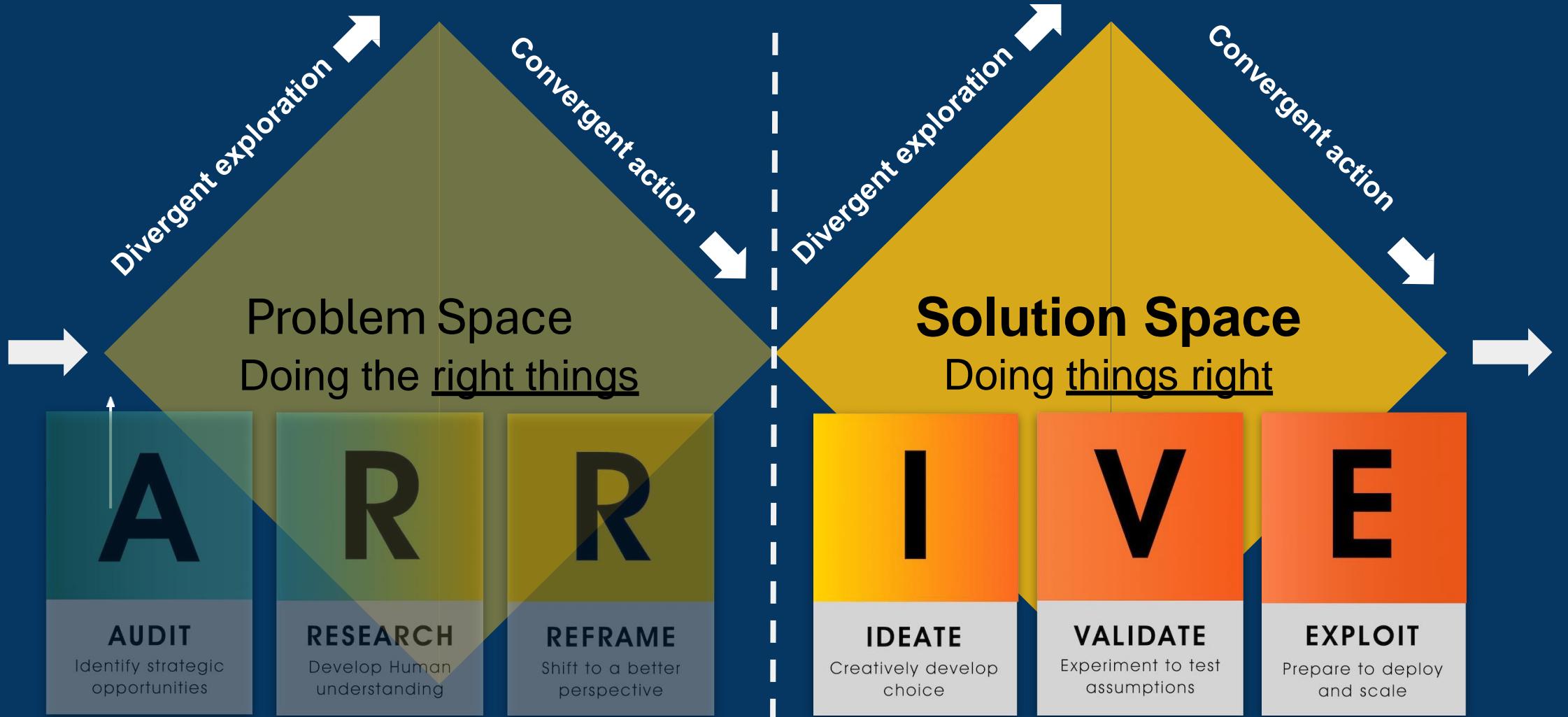
- Need more details provided by client families and CNM and handover nurses.
- Hope that CNMs could give feedback at what they reported as importance and emergency.
- Require more nurses to relieve their overworking and sick leave challenge.
- Relationships with client families should be improved.
- The new app Alaya should be easier to use and management needing sufficient enforcement of pushing its usage.

## POV Statement:

As a field nurse in Bayada,

I need to get more information about my client families and get feedback from CNMs and handover nurses

Because communication is very important, and we should put our clients first.



A close-up photograph of a woman with blonde hair pulled back in a ponytail, wearing a red shirt. She is laughing heartily, with her mouth wide open showing her teeth. In the lower-left foreground, the shoulder and part of a red shirt of another person are visible.

V

## VALIDATE

Experiment to test assumptions

# Selected Solution in Assignment 2a

In my opinion, Solution 1 is the selected solution compared with Solution 2/3 in every aspect.

## Key Benefits of Solution 1:

- **Lower Initial Investment:** The manpower, resources, and financial input required are relatively modest. Typically, with a transition period of 3 to 12 months, the process can become fully operational.
- **High Long-Term Returns:** Once established, the benefits are substantial. By integrating intelligent AI algorithms, Solution 1 can reduce employee workload, alleviate issues related to nurse shortages, and significantly improve communication efficiency.
- **Market Expansion:** The improved app can help tap into a broader user market, including the elderly, individuals with disabilities, and patients requiring temporary medical care due to accidents.
- **Invaluable Asset:** developing skilled nurses is valuable, there is always the risk of job-hopping. Maintaining and enhancing the app, however, creates a unique and invaluable asset for Bayada.
- **Future Trends:** Having own app is important to further AI healthcare industry.





**E**

## EXPLOIT

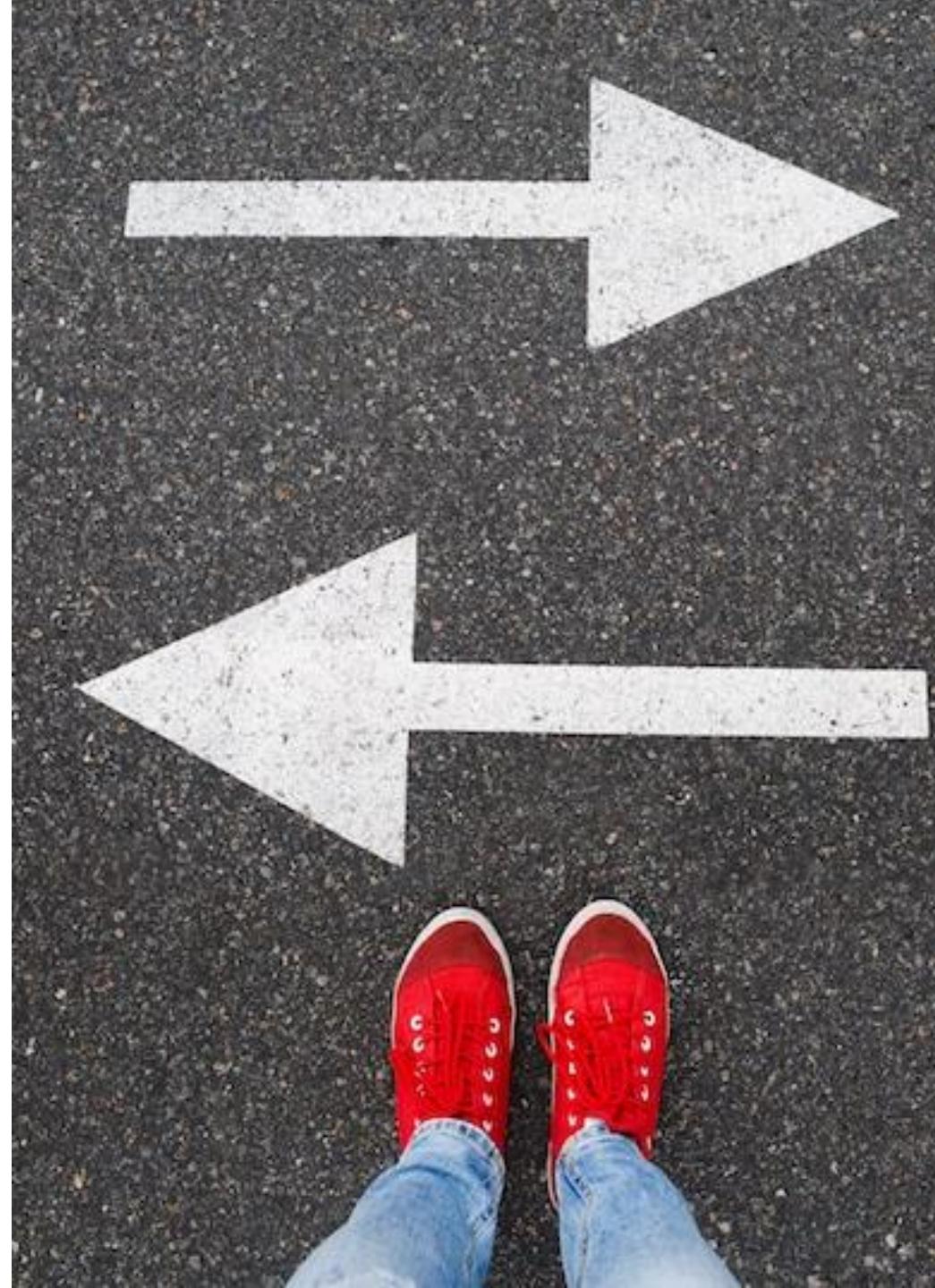
Prepare to deploy  
and scale

# Business Canvas Requirements

Designing a Business Canvas that is desirable, feasible, and viable ensures not only creating a product or service that potential customers want but also having the capability to deliver it and sustaining the business financially. It increases the likelihood of long-term success and market impact. Therefore, there are some main criteria for Bayada business.

## Main Criteria

- A user-friendly interface will make users easy and happy to daily use
- OCR algorithm efficiently provides option to users who don't like type in App
- Embedded in intelligent recommend algorithm to decrease CNM's workload by suggesting top 3 best matched nurses and backup nurses when asking leave
- Add automated intelligent training materials distribution function, different levels of nurses will receive different training videos
- High-quality training are important including pre-recorded and face-to-face
- Compliance with Data Privacy Laws
- A variety of customer retention strategies if planning to extend the range of healthcare service
- Expand vertical and horizontal markets
- Mutual satisfaction investigation after finishing service
- Excellent nurse award and best cooperative client award, which will be helpful to constraint nurse and client families at a lower cost
- Use 24 or 48 hours feedback customer-first mechanism



# Business Canvas 1

Change always brings growing pains. If these challenges are not overcome or if the process is abandoned halfway, the efforts will be in vain.

Therefore, Bayada must implement the following key changes:

- The app must be improved efficiently to ensure user-friendly
- CNM, nurses and client families must be encouraged to daily use the app
- Intelligent algorithms should be integrated into the app to reduce labor costs and help automated management, maximizing the utilization of talents
- Training must be prioritized, offering tailored training to different levels or types of nurses
- Prepare budgets and sales forecasts proactively in alignment with the business development strategy

These changes may involve risks:

- CNMs & nurses do not accustomed to using the app
- The management does not enforce the use of the app
- Client families resist providing detailed information in the app because of worry about data privacy
- The management lacks a clear strategic plan, leading to an unfinished effort



<b>Key Partners</b>	<b>Key Activities</b>	<b>Unique Value Proposition</b>	<b>Client Relationships</b>	<b>Users</b>
<ul style="list-style-type: none"> <li>- If internal IT dept can manage data security, developing and maintaining software and algorithms etc., then the third-party service partners may be unnecessary</li> <li>- Need training resources if no internal training dept</li> <li>- Advertisement partners</li> </ul>	<ul style="list-style-type: none"> <li>- Re-design existing app</li> <li>- Gradually establish a comprehensive and high-quality training system</li> <li>- Embedded intelligent algorithms to greatly maximize the utilization of talent</li> </ul>	<ul style="list-style-type: none"> <li>- Free Bayada souvenir package when first home visiting, such as a Bayada practical canvas bag is really a walking advertisement</li> <li>- Intelligent algorithms will reduce mgmt. time and maximize the utilization of employee</li> <li>- Have a big potential global market</li> </ul>	<ul style="list-style-type: none"> <li>- Professional nurse training experts</li> <li>- Advertisement partners</li> <li>- HSE and similar institutions to provide more clients</li> </ul>	<ul style="list-style-type: none"> <li>- CNM of Bayada</li> <li>- Nurses of Bayada</li> <li>- Client families</li> </ul>
	<b>Key Resources</b> <ul style="list-style-type: none"> <li>- Existing app</li> <li>- Existing training system</li> <li>- Existing employee</li> </ul>		<b>Channels</b> <ul style="list-style-type: none"> <li>- Mobile app (ios, android)</li> <li>- Website if budget permits</li> </ul>	

<b>Cost Structure</b>	<b>Revenue Stream/ Savings</b>
<ul style="list-style-type: none"> <li>- App improved and maintain fee</li> <li>- Intelligent algorithms develop and maintain fee</li> <li>- First home visit souvenir package fee</li> <li>- Training human resources fee</li> <li>- Excellent nurses and best cooperative client award fee</li> </ul>	<ul style="list-style-type: none"> <li>- Customer satisfaction encourages repeat purchases of Bayada services when they need in future</li> <li>- Customer satisfaction promote recommendation to others around</li> <li>- Help to expand vertically to serve different age groups needing Bayada service and horizontally to offer a broader range of healthcare services, such as individual VIP etc.</li> <li>- Automated and efficiently mgmt. on nurses and clients, capable with bigger market expansion</li> <li>- Easy analysis clients to make strategic expanding plans etc.</li> </ul>

# Business Canvas 2

With the development of AI in recent decades, intelligent healthcare robots may be the trends in future.

Therefore, Bayada must implement strategic planning in advance:

- The existing app must be improved efficiently to ensure user-friendly
- The whole digital processing should be smooth
- Embedded intelligent healthcare robots based on the app
- Tasks that do not require specialized medical care can be assigned to intelligent healthcare robots

These changes may involve risks:

- The initial investment is relatively high
- It is currently in the trial phase, and the returns may not be immediately visible in the short term
- Client families resist AI robots because of worry about data privacy
- The management lacks a clear strategic plan, leading to an unfinished effort
- Lack confidence on objects relating to AI



<b>Key Partners</b>	<b>Key Activities</b>	<b>Unique Value Proposition</b>	<b>Client Relationships</b>	<b>Users</b>
	<ul style="list-style-type: none"> <li>- Re-design existing app</li> <li>- Introduce intelligent robots and test on it</li> </ul>	<ul style="list-style-type: none"> <li>- AI-robots may be the trends of future healthcare, it is good to strategic plan in advance</li> <li>- Greatly reduce nurses, which release the tension of nurses shortage</li> </ul>	<ul style="list-style-type: none"> <li>- Professional AI-robots experts</li> <li>- Advertisement partners</li> <li>- HSE and similar institutions to provide more clients</li> <li>- Robots providers</li> </ul>	
	<b>Key Resources</b>		<b>Channels</b>	
	<ul style="list-style-type: none"> <li>- Existing app</li> <li>- Existing employee</li> </ul>		<ul style="list-style-type: none"> <li>- Mobile app (ios, android)</li> </ul>	

<b>Cost Structure</b>	<b>Revenue Stream/ Savings</b>
<ul style="list-style-type: none"> <li>- Robots fee</li> <li>- Software maintain fee</li> <li>- Test fee</li> <li>- App improved and maintain fee</li> </ul>	<ul style="list-style-type: none"> <li>- No conflict between client families and robots if client families are willing to accept AI healthcare robots</li> <li>- Greatly reduce nurse resource costs and release the tension of nurse shortage</li> <li>- It may be the future trend, using in advance may occupy good position for the AI healthcare market</li> </ul>

# Business Canvas Selection

Obviously, currently, business model canvas 1 is the final selection, which is aligning with the selected solution in assignment 2a. The main points showing the advantages than business model canvas 2 are listed as below:

## Advantages of selecting business canvas 1:

- Relatively lower cost investment
- Quick to yield results
- The intelligent algorithms planning to use are currently well-established and widely applied in the industries
- Higher return on investment (ROI)
- More human-centered



# FINAL Solution

The business canvas 1 aligns with the selected solution, and there needs some adjustments on the original selected solution to make the whole digital processing more efficiently, greatly reducing costs and automating mgmt.

The keys of original selected solution is listed as below:

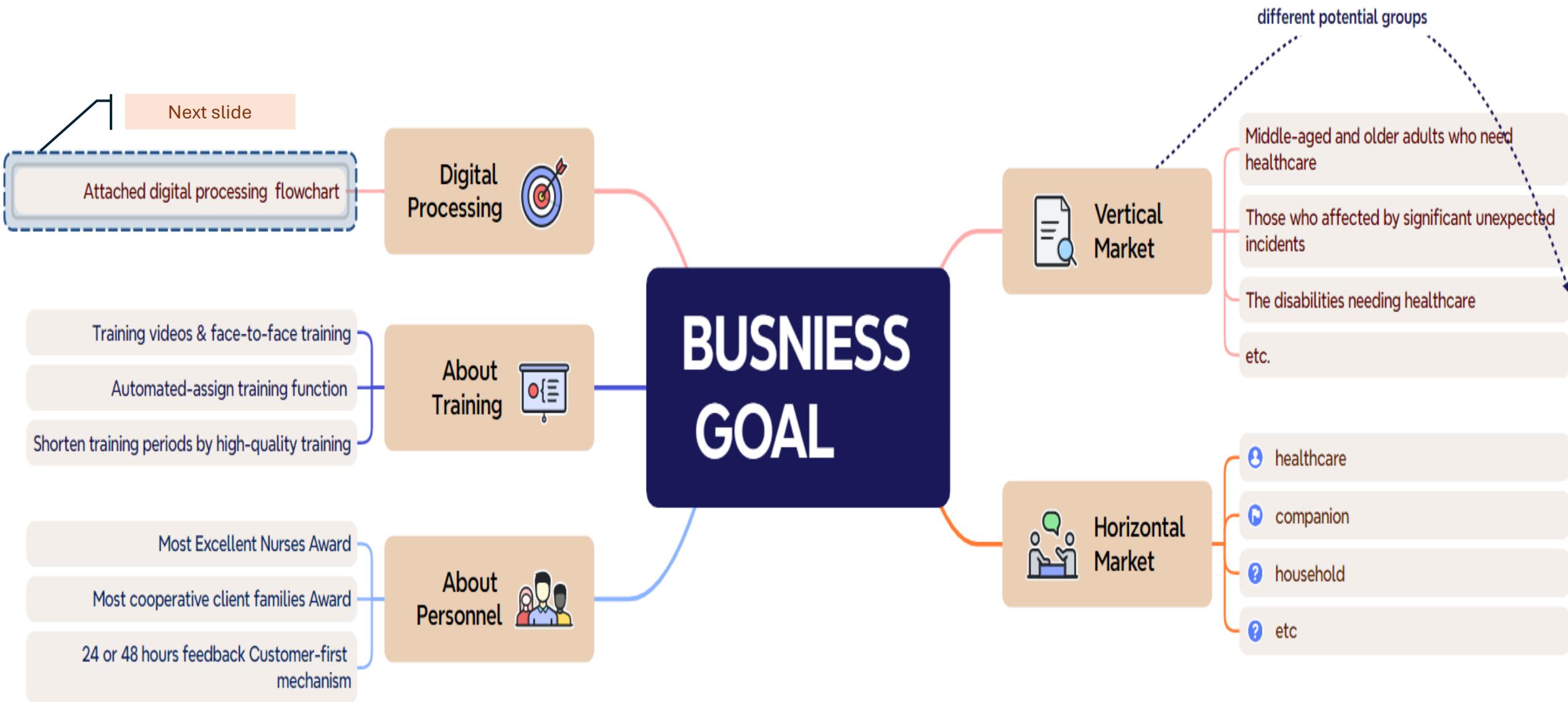
- Optimize the existing app
- Add intelligent recommend algorithm to greatly reduce CNM's workload
- Set up high-quality training system to train different levels of nurses
- Human resource incentive mechanism to promote the cooperative relationship between nurses and client families
- 24 or 48 hours feedback customer-first mechanism
- Data privacy protection

The new added functions in the solution:

- Add OCR algorithm to solve the key problem requested by Bayada mgmt. staff on last presentation meeting, which makes CNMs, nurses and client families to have options to choose type or write
- Add automated training videos assign function, which means different levels of nurses will receive the different training videos automatically
- The app will help the whole processing to be automated and smooth mgmt.



# NEW Mind Map - General



# NEW Mind Map – Digital Processing Flowchart



# Thank You!

