

## Roadmap

Stage	Guiding Question	Key Task	Deliverable
Ask	<ul style="list-style-type: none"><li>• Who has the problem?</li><li>• What is the problem you are trying to solve?</li><li>• How can your app solve business problem?</li><li>• How users will use your app?</li><li>• Where is your data located?</li><li>• How is the data organized?</li></ul>	<ul style="list-style-type: none"><li>• Identify the business task and key stakeholders.</li><li>• Identify the primary key of the data.</li><li>• Choose your required columns.</li><li>• Organize and format your data.</li></ul>	A clear statement of the context, stakeholders, business task, limitation, and data summary.
Main	<ul style="list-style-type: none"><li>• How users can run each CRUD features?</li></ul>	<ul style="list-style-type: none"><li>• Prompts the user to enter the number according to which menu will be selected.</li><li>• Make sure users can run each feature.</li><li>• Ensure user can exit the application.</li></ul>	A regular function to show and run the main menu.
Create	<ul style="list-style-type: none"><li>• How can users add new data?</li></ul>	<ul style="list-style-type: none"><li>• Prompts the user to input data.</li><li>• Make sure there are no duplicate data.</li><li>• Validate the new data format.</li><li>• Prompt the user to save data or not.</li><li>• Show notifications.</li></ul>	A regular function to add new data to the database.
Read	<ul style="list-style-type: none"><li>• How can users read all or some of the data?</li></ul>	<ul style="list-style-type: none"><li>• Prompt the user to read data.</li><li>• Make sure data is exist.</li><li>• Display data in a user-friendly way.</li><li>• Show notifications.</li></ul>	A regular function to read data from the database.
Update	<ul style="list-style-type: none"><li>• How can users can change existing data?</li></ul>	<ul style="list-style-type: none"><li>• Prompt the user to select the spesific column to be updated.</li><li>• Make sure data is exist.</li><li>• Validate the update data format.</li><li>• Prompt the user to update data or not.</li><li>• Show notifications.</li></ul>	A regular function to update existing data.
Delete	<ul style="list-style-type: none"><li>• How can users delete existing data?</li></ul>	<ul style="list-style-type: none"><li>• Prompt the user to select the spesific data to be deleted.</li><li>• Prompt the user to delete data or not.</li><li>• Validate the data was successfully deleted.</li><li>• Show notifications.</li></ul>	A regular function to delete existing data.
Integration	<ul style="list-style-type: none"><li>• How can users maintain and upgrade new features to the app?</li><li>• How do users ensure that features are well integrated with each other?</li><li>• How can the user's development team understand and read your code clearly and well?</li><li>• What are the conditions that can cause an app to stop working or error?</li><li>• What to prepare for when errors arise?</li></ul>	<ul style="list-style-type: none"><li>• Complete code documentation.</li><li>• Ensure all features are interconnected.</li><li>• Minimize the possibility of causing errors.</li><li>• Optimize code writing for low memory size and runtime consuming.</li><li>• Show the potential of apps that can be developed.</li></ul>	Program code that is interconnected, high level of readability and scalability.

## Project Planning Example

Context: Warehousing ...

Problem: Perusahaan mengalami dead stock disebabkan pelaku usaha menjalankan praktik pengadaan barang yang tidak konsisten. Misalnya, level permintaan yang rendah sedangkan pelaku usaha membeli barang terlalu banyak.

Business task: Perusahaan memerlukan sistem untuk memantau proses operasional gudang. Sistem ini akan membantu pelaku usaha untuk mendapatkan stock barang secara riil, dan dapat dijadikan acuan dalam melakukan stock opname.

Stakeholder: Staf gudang.

Limitation: Aplikasi manajemen barang akan menerapkan konsep FEFO.

Data Summary: Dataset merepresentasikan stock obat dari perusahaan farmasi, dataset terdiri dari 10 kolom yaitu ....