INNOVATION.PDF
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Module: Mobile Applications

Innovation 1 — Loading indicators and "no results" feedback

What it does:
I added visible loading indicators whenever the application makes a network request to the Spoonacular API. This ensures the user always gets immediate feedback that the app is working. I also added a "no results" message when the search returns an empty list, so the UI is never blank without explanation (Nielsen Norman Group, 2014).

Where it is implemented:
- Home Page:
  - src/app/home/home.page.ts
  - src/app/home/home.page.html
- Recipe Details Page:
  - src/app/recipe-details/recipe-details.page.html (and existing isLoading state in TS)

How it works:
Home Page:
1) When the user clicks Search, the method searchRecipes() sets isLoading = true before making the HTTP call.
2) The UI checks isLoading and shows an <ion-spinner> while the call is in progress (Ionic, n.d.).
3) Angular HttpClient returns an Observable. The request happens when one subscribes; when the response arrives one sets isLoading = false and display the results (Angular, n.d.).
4) If response.results is empty, the UI displays "No recipes found …" instead of showing nothing.

Recipe Details Page:
1) When a recipe is opened, the page fetches /recipes/{id}/information.
2) While the request is running, a spinner is displayed.
3) When data arrives, the spinner is hidden and the recipe image, ingredients and instructions are shown.

Innovation 2 — Favourite status indicator and quick toggle from Home search results

What it does:
I extended the favourites feature by showing each recipe's favourite status directly in the Home search results list and allowing the user to add/remove favourites instantly from that list (without opening the Recipe Details page).

Where it is implemented:
- Home Page:
  - src/app/home/home.page.ts
  - src/app/home/home.page.html
- Shared favourites storage:
  - src/app/services/favourites.service.ts

How it works:
1) The Home page uses the shared FavouritesService to check if a recipe ID is already stored as a favourite.
2) If it is a favourite, the UI shows a filled heart; otherwise it shows an outline heart.
3) When the user taps the heart button, toggleFavourite(recipe) either adds or removes the recipe using the FavouritesService.
4) Favourites are saved in localStorage so they persist after the app is closed (MDN Web Docs, 2025).

REFERENCES:

Angular (n.d.) 'Making HTTP requests'. Angular Documentation. Available at: https://angular.dev/guide/http/making-requests (Accessed: 01 January 2026).

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MDN Web Docs (2025) 'Window: localStorage property'. Mozilla Developer Network. Available at: https://developer.mozilla.org/en-US/docs/Web/API/Window/localStorage (Accessed: 01 January 2026).

Nielsen Norman Group (2014) 'Progress Indicators Make a Slow System Less Insufferable'. Available at: https://www.nngroup.com/articles/progress-indicators/ (Accessed: 30 December 2025).