

Automating the Roster Scheduling Process @ Gleneagles Hospital

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1. Project Description

Gleneagles Hospital required an automated roster scheduling process to ease the workload of their Nurse Managers.

2. Project Objective

- To create a program which automates the generation of the bi-weekly roster
 - Should achieve at least 70% accuracy.
 - Can be manually re-adjusted straight from the program.

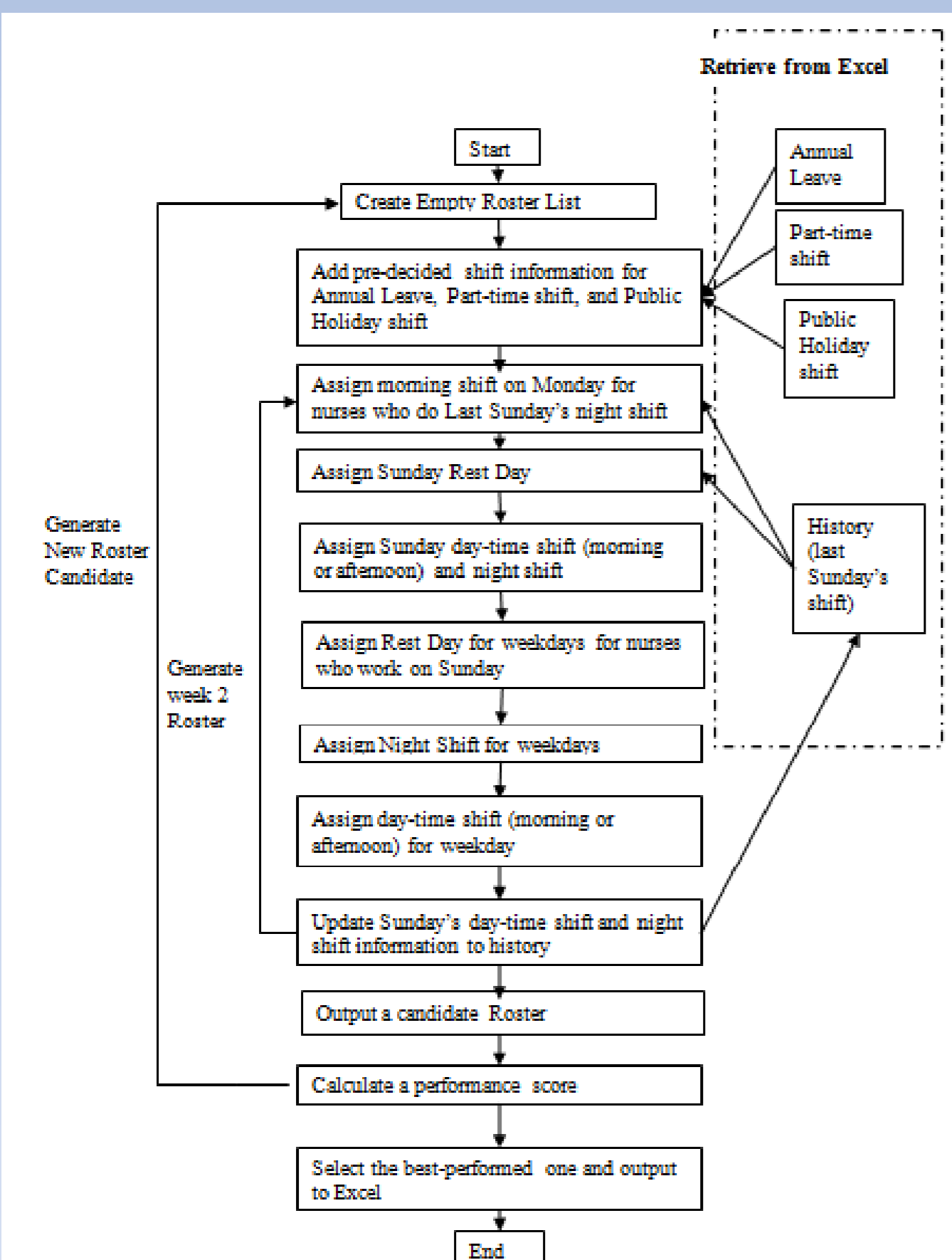
3. Algorithm

The steps for generating the roster are carried out separately for each week.

1. For nurses on leave, fill their slots indicating absence so that they will not be considered for any duty.
2. Assign rest days and Sunday duties (Morning, Afternoon and Night).
3. Assign duties (Morning, Afternoon and Night) for weekdays.
4. Update Sunday's shift duties to history.

After running through the above steps twice (generate 2 weeks' roster),

1. Output a candidate roster.
2. Evaluate performance based on percentage of nurses' preferences satisfied.
3. Generate 5 candidate rosters and select the best as the final roster.



4. Results

- Delivered a program which runs on a .bat file and uses the interface of the Excel spreadsheet.
- Use of colours and familiar layout to enhance adaptability of using a new program.

The screenshot shows a detailed roster spreadsheet for Gleneagles Hospital. The columns represent dates from 13 Feb to 24 Feb. The rows list individual nurses with their IDs and names. The cells are color-coded to represent different shifts: blue for day shifts, orange for night shifts, and grey for rest days or absences. The spreadsheet includes a 'Weekly Roster' tab and a 'Generate Roster' button.