

Manual / Automatic Scheduler in ReactJS

Produce a single page ReactJS app to assist in scheduling. Single page app should look like the following.

	Schedule				
	Monday	Tuesday	Wednesday	Thursday	Friday
Morning UpStairs	X	X	X	X	X
Morning Down Stairs	X	X	X	X	X
Morning Parking Lot	X	X	X	X	X
Lunch A	X	X	X	X	X
Lunch B	X	X	X	X	X
Lunch C	X	X	X	X	X
Lunch D	X	X	X	X	X
Afternoon Up Stairs	X	X	X	X	X
Afternoon Down Stairs	X	X	X	X	X
Afternoon Parking Lot	X	X	X	X	X

Staff Member	Load					Totals
	Monday	Tuesday	Wednesday	Thursday	Friday	
X1	Y	Y	Y	Y	Y	YY
X2	Y	Y	Y	Y	Y	YY
X3	Y	Y	Y	Y	Y	YY
X4	Y	Y	Y	Y	Y	YY
X5	Y	Y	Y	Y	Y	YY
X6	Y	Y	Y	Y	Y	YY
X7	Y	Y	Y	Y	Y	YY

For the Schedule section, fields labelled X allow display and selection of a staff member for a time slot / shift

There are seven staff members, their names are X1, X2, X3, X4, X5, X6 and X7.

In the Load section, each staff member is listed (X1..X7). Fields labelled Y are that staff members' 'load' for that day. Their load is the number of shifts worked on that day. Fields labelled YY are the total number of shifts allocated to staff member in the week.

Quality of code, documentation, tests and functionality are what ISARA is interested in seeing. ISARA appreciates that your personal time is valuable – please do not spend more than 2 hours total working on this challenge. The following table describes features breaking this single page

app into functional blocks. Not all levels need to be addressed. Addressed levels should be attempted in numerical order though.

Level	Features
1	Self contained .zip file, or link to github code repository containing Javascript and package configuration files to start an ExpressJS server, which serves no content
2	Server serves a ReactJS page which is static, but similar in shape to the above. Components are preferred a single render function building everything.
3	ReactJS page where each X above is replaced with some HTML control allowing a staff member to be selected for a slot.
4	ReactJS page displays all staff in the Load section, with their number of slots correct for each day, and the correct total for the week
5	ReactJS page prevents – or displays warning – when a staff member is in consecutive lunch slots on the same day.
6	ReactJS page prevents – or displays warning – when a staff member has more than 2 shifts per day
7	ReactJS page prevents – or displays warning – when a staff member has more than 7 shifts per week
8	ReactJS page prevents – or displays warning – when a staff member is selected to be in two places at once. (eg: UpStairs and Parking Lot)
9	ReactJS page allows randomised population of currently empty shifts, respecting the above rules. At this level, clearing all shifts should be supported too.
10	ReactJS page reports how many staff members are needed to fill all shifts, respecting the above rules.
11	ReactJS page stores current progress at the server (globally)
12	ReactJS page can retrieve current state when re-opened (globally)
13	ReactJS page supports undo/redo