

2020 Case Study: HRIS Requirements Trace Matrix

Entry #	Para #	Requirement	Type	Use Case
1	3.1	The Human Resource Information System must operate within the Standard Operating Environment (SOE) of School desktop machines, which are a mixture of Dell and Apple products that all run Windows 10.	SWC	
2	3.1	The information that the system will display is currently all stored in a MySQL database, named the "School Database", and this database content and structure cannot be changed.	SWC	
3	3.2	The final system is to be developed using C# and the sources shared with technical staff from Information Technology Resources so that they may maintain it into the future.	SWC	
4	4.1	Administrative and technical support staff will use the new system.	SWC	
5	4.1	Both groups will have access to the same features, so there will be no need to differentiate between users.	SWC	
6	5.1	The Human Resource Information System will consist of two main components: staff lists and unit timetable display.	D 8, 23	
7	5.1	These may be enhanced by the addition of another component: activity heat maps.	D 28, 37	
8	5.1.1	The user shall be able to view an interactive list of staff employed by the School.	SW	UC8_User_views_StaffList
9	5.1.1	The list will be accessed by selecting a tab labelled 'Staff', and should be visible upon application start up.	SWC 8	
10	5.1.1	This list should display names in the format 'Family Name, Given Name (Title)', as in 'Einstein, Albert (Dr)', ordered alphabetically by family name and then given name.	SWC 8	
11	5.1.1	Ideally this list should be visually compact.	SWC 8	
12	5.1.2	The Staff List view should be able to filter the listed staff based on their category.	SWC 8	
13	5.1.2	The user should be able to list all staff, academic, technical, administrative, and casual.	SWC 8	
14	5.1.3	It would enhance the system's utility if the user could also filter the list by entering part of a staff member's name.	NTH SWC 8	
15	5.1.3	The list contents would be restricted to show only those staff whose given name or family name contains the text entered by the user, ignoring case.	NTH SWC 8	

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16	5.1.4	When the users selects a name in the list the system will show more details about the staff member (referred to as the Staff Details view), which should include: Name; Campus; Phone Number; Room Location; Email Address; Photo; Consultation hours; Table of units he or she is involved with in the current semester.	SW	UC16_User_selects_StaffDetails
17	5.1.5	It would enhance the software if selecting a unit code in the table of units takes the user to the timetable view (described below).	NTH SWC 16	
18	5.1.5	It would also be useful for each staff member's current availability to be displayed: 'teaching' (with details of the unit code and room) if they are in a timetabled class; 'consulting' if it is during their consultation times; 'free' otherwise.	NTH SWC 16	
19	5.1.6	It would enhance the Staff Details view if the staff member's activity (classes and consultation times) across a week could be displayed in a colour-coded grid.	NTH SW	UC19_User_shows_ActivityGrid
20	5.1.6	This grid should be toggled (displayed or hidden) via a button on the Staff Detail view.	SWC 19	
21	5.1.6	The grid should have days of the week (Monday through Friday) as columns and hours of the day (9am until 4pm) as rows, with each cell's colour indicating the kind of activity at that time, but no other details shown.	SWC 19	
22	5.1.6	Free time should be shown in white, while teaching and consultation times should be shaded in distinct colours that are distinguishable by those with common forms of colour blindness.	SWC 19	
23	5.2.1	The system should be able to generate a list of the units under the control of the School, ordered alphanumerically.	SW	UC23_User_views_UnitList
24	5.2.1	Selecting a unit from this list should bring up a list of classes for that unit, ordered chronologically.	SW	UC24_User_selects_Unit
25	5.2.1	This view should be tabular, showing the following information about the selected unit in each column: day; start and end time in 24-hour format, such as '12:00–14:00' or '12:00–13:50'; type (Lecture, Tutorial, Practical, Workshop); room location; campus; staff member.	SWC 24	

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26	5.2.2	It would enhance the software if it is possible to go from a timetable entry to the Staff Detail view for the relevant staff member, just as if selecting that person in the Staff List.	NTH SWC 24	
27	5.2.3	The user will be able to filter the timetable so that it displays information for a single campus.	SWC 24	
28	5.3.1	It would enhance the application's utility if it could generate 'heat maps' of activity across the week.	NTH SW	UC28_User_generates_HeatMap
29	5.3.1	It should be possible to generate two different heat maps, one for unit classes and another for consultation times.	SWC 28	
30	5.3.1	It must be possible to generate different heat maps for all ICT Discipline classes, and those only occurring in Hobart or Launceston.	SWC 28	
31	5.3.1	All heat maps shall be accessed via a menu or buttons on a dedicated tab.	SWC 28	
32	5.3.2	Each heat map will be displayed as a grid of coloured cells, with columns for each day of the work week (Monday through Friday) and rows for the starting hours 9am through 4pm.	SWC 28	
33	5.3.2	Each cell in which zero activities occur should be blank, while cells representing one or more activities should contain the number of co-occurring activities.	SWC 28	
34	5.3.2	The shading of each cell should indicate the number of events occurring at that time, with white indicating no events and a solid colour indicating the greatest number of events within the set of events being displayed.	SWC 28	
35	5.3.2	Intermediate values should be assigned a colour intermediate between white and the selected solid colour.	SWC 28	
36	5.3.2	It would be nice to allow the user to select the primary colour of the heat map.	NTH SWC 28	
37	5.4.1	It would further enhance the application's utility if it could generate a variant of the heat map that shows clashes between a unit's classes and the consultation time of staff involved in teaching that unit.	NTH SW	UC37_User_generates_ClashMap
38	5.4.1	This would be accessed via a button on the Unit Timetable view, and use data for the currently displayed classes and staff who teach them (that is, both campuses, Hobart only or Launceston only).	SWC 37	

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39	5.4.1	The cells in the grid should use the following colour scheme: white if no class or staff consultation occurs on that hour and day; bright green if that time contains either a class or consultation, but not both; and red if it contains both consultation and a class.	SWC 37	
40	5.4.1	Cells representing clashes should also include the text 'clash'.	SWC 37	
41	7.1	The list of units shall be formatted as 'UnitCode UnitTitle', as in 'KIT206 Software Design and Development'.	SWC 23	
42	7.1	It would enhance the system's utility if the user could also filter the list of units by entering part of a unit code or title.	NTH SWC 23	
43	7.1	The list contents would be restricted to show only those units whose code or title contains the text entered by the user, ignoring case.	NTH SWC 23	
44	7.1	Search queries including both code and title do not need to be supported.	NTH SWC 23	