

VBA SOURCE CODE BOOK

DYNAMIC SKILLS MATRIX - UPDATED

DYNAMIC SKILLS MATRIX

New Project Save Project Delete Project Generate Optimal Staff

Show Projects	Add Employee By Name	Project Name	Fredders Remodel	Proj. Type	Residential	Project Days	6	Labor Budget	\$30,000.00																	
[All Statuses]	Mark Mason	Proj. Manager	Dave Davidson	Status Estimate		Required Staff	10	Total Estim. Labor	\$32,928.00																	
[All Types]	Save As Team	Team Name	Project Desc.	Large Residential Remodel		Total Staff	20	Add Skill	Painting																	
PROJETS		Display	Hourly Rate	Staff Position	Appliances	Cabinetry	Ceramics	Countertops	Drainage	Drywall	Electrical	Flooring	Foundation	Framing	WAC	Irrigation	Landscape	Lighting	Masonry	Painting	Plumbing	Roofing	Welding	Sematron		
Fredders Remodel	EMPLOYEES	Name	Hourly Rate		8	5	6	7	8	8	2	5	5	5	5	5	5	5	5	5	5	4	2	Min. Level/Skill		
Starbucks Build		Fred Fredders	\$25.00		5	5	6	7	8	50	2	2	2	2	2	2	2	2	2	2	2	2	3	1	Min. Staff @Skill Level	
Johns Kitchen		Dave Davidson	\$35.00		7	7	4	4	6	2	7	6	1	9	2	10	9	1	4	4	1	9	10	8	133	
Project 5		Peter Parker	\$45.00		8	6	1	3	10	6	3	10	2	3	8	9	4	7	7	5	6	4	1	7	111	
Project 6		Mary Smith	\$55.00		7	5	8	5	1	10	10	10	3	7	7	4	6	8	5	5	3	4	8	1	110	
Kitchen Update		Mark Mason	\$20.00		8	2	4	6	1	4	10	7	10	1	5	7	7	5	6	9	6	3	1	8	110	
Project 8		Jack Johnson	\$30.00		10	9	9	3	3	2	6	1	8	4	1	7	10	2	3	8	6	7	9	9	117	
Project 9		Lisa Mathevs	\$40.00		6	8	2	3	7	4	8	10	1	2	6	10	4	2	10	1	3	7	2	10	106	
Project 10		Greg Perkins	\$50.00		4	7	9	3	3	2	3	1	3	4	9	1	1	5	9	5	10	5	1	9	94	
Project 11		Anita Withers	\$55.00		5	6	8	3	3	1	8	9	2	9	7	10	7	6	4	8	9	6	8	3	6	125
Project 12		Kay Hopkins	\$45.00		5	9	3	3	5	2	1	10	8	7	7	1	9	8	4	2	4	8	7	5	108	
		Larry Daniels	\$35.00		10	10	2	10	6	2	1	3	1	1	5	6	5	5	2	1	10	9	1	8	98	
		Tim Simmons	\$25.00		2	4	5	9	4	7	2	9	6	7	3	9	10	5	8	1	10	3	7	4	115	
		Jimmy James	\$50.00		5	8	6	7	8	8	10	2	8	4	8	10	9	5	9	4	5	5	4	8	133	
		Tina James	\$40.00		8	3	2	6	10	5	8	10	2	5	1	8	3	10	10	2	3	5	2	7	120	
		Graham Perkins																								
		Craig Nelson																								

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FEATURE, FIX, OR FOCUS



Excel For Freelancers

How To Create A Dynamic Employee Skills Matrix With Projects In Excel



DOWNLOAD APPLICATION



VIEW TRAINING

by: Randy Austin

ABOUT THE AUTHOR

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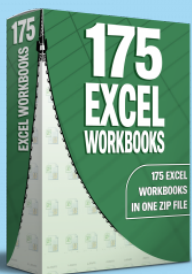
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1	Option Explicit
2	

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2	

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2	

Option Explicit

```
Private Sub Worksheet_Change(ByVal Target As Range)
```

```
'On Project Filter Change, load projects
```

```
If Not Intersect(Target, Range("D4,D5" )) Is Nothing Then ProjectList_Load
```

```
'On Add Employee By Change
```

```
If Not Intersect(Target, Range("F3" )) Is Nothing Then
```

```
Range("E4" ).Validation.Delete
```

```
Range("E4" ).ClearContents
```

```
If Range("F3" ).Value = "Team" Then
```

```
GetUniqueTeams 'Run macro to get unique teams
```

```
Range("E4" ).Validation.Add xlValidateList, AlertStyle:=xlValidAlertInformation,  
Formula1:="=Teams"
```

```
Else
```

```
Range("E4" ).Validation.Add xlValidateList, AlertStyle:=xlValidAlertStop, Formula1:=  
"=Empl_Name"
```

```
End If
```

```
End If
```

```
'On Skill Level change,
```

```
If Not Intersect(Target, Range("G9:AA99" )) Is Nothing And Range("AA" & Target.Row).Value  
<> Empty And Cells(101, Target.Column).Value <> Empty And Range("B11" ).Value = False
```

```
Then
```

```
Dim SkillLev As Long, MinSkill As Long, MaxSkill As Long, EmpDBRow As Long, EmpDBCole As  
Long
```

```
Dim LevRng As Range
```

```
SkillLev = Target.Value
```

```
On Error Resume Next
```

```
Set LevRng = Admin.Range("Levels" )
```

```
On Error GoTo 0
```

```
If LevRng Is Nothing Then
```

```
MsgBox "Please make sure to set levels in the Admin screen"
```

```
Exit Sub
```

```
End If
```

```
MinSkill = Application.WorksheetFunction.Min(LevRng)
```

```
MaxSkill = Application.WorksheetFunction.Max(LevRng)
```

```
Range("B11" ).Value = True 'Set Skill Change to True
```

```
If SkillLev < MinSkill Then
```

```
MsgBox "Skill levels cannot go below " & MinSkill
```

```
Target.Value = MinSkill
```

```
End If
```

```
If SkillLev > MaxSkill Then
```

```
MsgBox "Skill levels cannot go above " & MaxSkill
```

```
Target.Value = MaxSkill
```

```
End If
```

```
EmpDBRow = Range("AN" & Target.Row).Value 'Employee DB Row
```

```
EmpDBCole = Cells(101, Target.Column).Value 'Employee DB Col
```

```
Employees.Cells(EmpDBRow, EmpDBCole).Value = Target.Value 'Update Employee Level
```

```
Range("B11" ).Value = False 'Reset Skill Change to False
```

```
End If
```

```
End Sub
```

```
Private Sub Worksheet_SelectionChange(ByVal Target As Range)
```

```
If Target.CountLarge > 1 Then Exit Sub
```

```
If Shapes("DelEmplBtn" ).Visible = True Then Shapes("DelEmplBtn" ).Visible = msoFalse
```

```
If Shapes("DelSkillBtn" ).Visible = True Then Shapes("DelSkillBtn" ).Visible = msoFalse
```

```
If Shapes("LevelChangeGrp" ).Visible = True Then Shapes("LevelChangeGrp" ).Visible =  
msoFalse
```

```

1
56 Range("B7,B8,B9,B10" ).ClearContents 'Clear Selected Skills, Employees & Levels
57 'On Project Selection
58 If Not Intersect(Target, Range("D7:D99" )) Is Nothing And Range("D" & Target.Row).Value <
    > Empty Then
59     Dim FoundProj As Range
60     Set FoundProj = Projects.Range("Proj_Name" ).Find(Target.Value, , xlValues, xlWhole)
61     If FoundProj Is Nothing Then
62         MsgBox "Project Not Found"
63         Exit Sub
64     Else
65         Range("B2" ).Value = Target.Row 'Add Select Row Numb.
66         Range("B3" ).Value = Projects.Range("A" & FoundProj.Row).Value 'Set Project ID
67         Project_Load 'Run Macro to load project
68     End If
69 End If
70
71 'On Employee Selection
72 If Not Intersect(Target, Range("E9:F99" )) Is Nothing And Range("E" & Target.Row).Value <
    > Empty Then
73     Range("B8" ).Value = Target.Row 'Add Selected Row
74     'Show Delete Employee Grp
75     With Shapes("DelEmplBtn" )
76         .Left = Range("E" & Target.Row).Left - 22
77         .Top = Range("E" & Target.Row).Top
78         .Visible = msoCTrue
79     End With
80 End If
81
82 'On Skill Selection
83 If Not Intersect(Target, Range("G6:Z6" )) Is Nothing And Cells(6, Target.Column).Value <>
    Empty Then
84     Range("B7" ).Value = Target.Column
85     With Shapes("DelSkillBtn" )
86         .Left = Cells(6, Target.Column).Left + 37
87         .Top = Cells(6, Target.Column).Top
88         .Visible = msoCTrue
89     End With
90 End If
91
92 'On Skill Level Selection
93 If Not Intersect(Target, Range("G9:Z99" )) Is Nothing And Range("E" & Target.Row).Value <
    > Empty And Cells(6, Target.Column).Value <> "" Then
94     Range("B9" ).Value = Target.Row
95     Range("B10" ).Value = Target.Column
96     With Shapes("LevelChangeGrp" )
97         .Left = Target.Offset(0, 1).Left + 1
98         .Top = Target.Offset(0, 1).Top - 2
99         .Visible = msoCTrue
100    End With
101 End If
102 End Sub

```

1	Option Explicit
2	

```

1 Option Explicit
2 Dim LastRow As Long, LastResultRow As Long, ResultRow As Long, ProjRow As Long, ProjCol As
Long
3 Dim SkillDBRow As Long, SkillDBCol As Long, SkillRow As Long, SkillCol As Long, LastSkillCol
As Long
4 Dim EmpDBRow As Long, EmpDBCol As Long, EmpRow As Long, EmpCol As Long, LastEmpRow As Long
5 Dim PicFile As String, PicFolder As String, PicPath As String
6 Dim ProjID As String
7 Dim EmpPic As Shape
8
9 Sub Project_Delete()
10 If MsgBox("Are you sure you want to delete this project?" , vbYesNo, "Delete Project" ) =
vbNo Then Exit Sub
11 If SkillsMatrix.Range("B4" ).Value = Empty Then GoTo NotSaved
12 ProjRow = SkillsMatrix.Range("B4" ).Value 'Project Row
13 Projects.Range(ProjRow & ":" & ProjRow).EntireRow.Delete
14 NotSaved:
15 ProjectList_Load 'Reload Proj List
16 Project_New 'Clear Fields
17 End Sub
18
19 Sub Project_Load()
20 With SkillsMatrix
21 .Range("B8,J3:M3,P3:S3,W3,AB3,J4:M4,P4:S4,W4,J5:S5,E9:F99,G6:Z100,AM9:AM99" ).
ClearContents 'Clear Existing Fields
22 'Clear Employee Pictures
23 For Each EmpPic In .Shapes
24 If InStr(EmpPic.Name, "EmployeePic" ) > 0 Then EmpPic.Delete
25 Next EmpPic
26
27 If .Range("B4" ).Value = Empty Then
28 MsgBox "Please select a correct project to load"
29 Exit Sub
30 End If
31 Application.Calculation = xlCalculationManual
32 Application.ScreenUpdating = False
33 ProjRow = .Range("B4" ).Value 'Project Row
34 For ProjCol = 2 To 9
35 .Range(Projects.Cells(1, ProjCol).Value).Value = Projects.Cells(ProjRow, ProjCol).
Value 'Add from Projects DB
36 Next ProjCol
37
38 'Load Project Skills
39 With ProjSkills
40 LastRow = .Range("A99999" ).End(xlUp).Row
41 If LastRow < 3 Then GoTo NoSkills
42 .Range("A3:F" & LastRow).AdvancedFilter xlFilterCopy, CriteriaRange:=.Range(
"J2:J3" ), CopyToRange:=.Range("L2:P2" ), Unique:=True
43 LastResultRow = .Range("L99999" ).End(xlUp).Row
44 If LastResultRow < 3 Then GoTo NoSkills
45 SkillCol = 7
46 For ResultRow = 3 To LastResultRow
47 SkillsMatrix.Cells(6, SkillCol).Value = .Range("L" & ResultRow).Value 'Skill
Name
48 SkillsMatrix.Cells(7, SkillCol).Value = .Range("M" & ResultRow).Value 'Skill
Min. Level
49 SkillsMatrix.Cells(8, SkillCol).Value = .Range("N" & ResultRow).Value 'Skill
Min. Staff
50 SkillsMatrix.Cells(100, SkillCol).Value = .Range("P" & ResultRow).Value 'Proj
Skill DB Row
51 SkillCol = SkillCol + 1 'Increment Column

```

1 2 3 4

```

52     Next ResultRow
53     SkillsMatrix.Calculate
54     NoSkills:
55 End With
56
57 'Load Project Employees
58 With ProjEmpl
59     LastRow = .Range("A99999").End(xlUp).Row
60     If LastRow < 3 Then GoTo NoEmpl
61     .Range("A3:F" & LastRow).AdvancedFilter xlFilterCopy, CriteriaRange:=.Range(
62         "J2:J3"), CopyToRange:=.Range("L2:N2"), Unique:=True
63     LastResultRow = .Range("L99999").End(xlUp).Row
64     If LastResultRow < 3 Then GoTo NoEmpl
65     SkillsMatrix.Range("E9:F" & LastResultRow + 6).Value = .Range("L3:M" &
66         LastResultRow).Value 'Bring Over Employees
67     SkillsMatrix.Range("AM9:AM" & LastResultRow + 6).Value = .Range("N3:N" &
68         LastResultRow).Value 'Empl List DB Row
69     If SkillsMatrix.Range("B6").Value = 1 Then SkillsMatrix.Range("F9:F99").
70         NumberFormat = "$0.00" Else SkillsMatrix.Range("F9:F99").NumberFormat = "0"
71     SkillsMatrix.Calculate
72 End With
73 NoEmpl:
74 'Add Employee Picture
75 LastEmpRow = LastResultRow + 6 'Set Last Employee Row
76 PicFolder = Admin.Range("O5").Value & "/" 'Picture Folder
77 For EmpRow = 9 To LastEmpRow
78     If .Range("AN" & EmpRow).Value = "" Then GoTo NextEmp
79     EmpDBRow = .Range("AN" & EmpRow).Value 'Employee DB Row
80     If Employees.Range("G" & EmpDBRow).Value <> Empty Then
81         PicFile = Employees.Range("G" & EmpDBRow).Value 'Picture File Name
82         PicPath = PicFolder & PicFile
83         If Dir(PicPath, vbDirectory) = "" Then GoTo NextEmp
84         .Shapes("EmpSamplePic").Duplicate.Name = "EmployeePic" & EmpRow
85         With .Shapes("EmployeePic" & EmpRow)
86             .Left = SkillsMatrix.Range("E" & EmpRow).Left + 2
87             .Top = SkillsMatrix.Range("E" & EmpRow).Top
88             .Fill.UserPicture (PicPath)
89         End With
90     End If
91 Next EmpRow
92 Next EmpRow
93
94 'Load Employee Skills
95 LastSkillCol = .Range("AB6").End(xlToLeft).Column 'Last Skill Column
96 For EmpRow = 9 To LastEmpRow
97     For SkillCol = 7 To LastSkillCol ' Last Skill Column
98         If IsNumeric(.Range("AN" & EmpRow).Value) = True And IsNumeric(.Cells(101,
99             SkillCol).Value) = True Then
100             EmpDBRow = .Range("AN" & EmpRow).Value 'Employee Row
101             EmpDBCol = .Cells(101, SkillCol).Value 'Employee Col (Skills)
102             .Cells(EmpRow, SkillCol).Value = Employees.Cells(EmpDBRow, EmpDBCol).Value
103             'Set Skill Level
104         End If
105     Next SkillCol
106 Next EmpRow
107
108 .Range("F5").Value = "Team Name" 'Set Deafult Team Name Text
109 If ActiveSheet.CodeName = "SkillsMatrix" Then .Range("J3").Select
110
111 End With
112 Application.Calculation = xlCalculationAutomatic

```

```

1
107 Application.ScreenUpdating = True
108 End Sub
109
110 Sub Project_New()
111 'Clear Employee Pictures
112 For Each EmpPic In SkillsMatrix.Shapes
113     If InStr(EmpPic.Name, "EmployeePic" ) > 0 Then EmpPic.Delete
114 Next EmpPic
115 SkillsMatrix.Range(
    "B2,B3,B7:B10,J3:M3,P3:S3,W3,AB3,J4:M4,P4:S4,W4,J5:S5,E9:F99,G6:Z100,AM9:AM99" ).
    ClearContents
116 End Sub
117 Sub Project_SaveUpdate()
118 With SkillsMatrix
119     If .Range("J3" ).Value = Empty Then
120         MsgBox "Please make sure to assign a Project Name before saving"
121         Exit Sub
122     End If
123     Application.ScreenUpdating = False
124     Application.Calculation = xlCalculationManual
125     If .Range("B4" ).Value = Empty Then 'New Project
126         ProjRow = Projects.Range("A99999" ).End(xlUp).Row + 1
127         .Range("B3" ).Value = .Range("B5" ).Value 'Set Next Project ID
128         Projects.Range("A" & ProjRow).Value = .Range("B3" ).Value 'Set Proj. ID
129     Else 'Existing Project
130         ProjRow = .Range("B4" ).Value 'Existing Project Row
131     End If
132     ProjID = .Range("B3" ).Value 'Project ID
133     For ProjCol = 2 To 9
134         Projects.Cells(ProjRow, ProjCol).Value = .Range(Projects.Cells(1, ProjCol).Value).
            Value 'Add/Update Projects DB
135     Next ProjCol
136
137     'Update Assigned Skills
138     For SkillCol = 7 To 26
139         If .Cells(6, SkillCol).Value = Empty Then Exit For
140         If .Cells(100, SkillCol).Value = Empty Then 'New Skill
141             SkillDBRow = ProjSkills.Range("A99999" ).End(xlUp).Row + 1
142             .Cells(100, SkillCol).Value = SkillDBRow 'Place DB Row
143             ProjSkills.Range("A" & SkillDBRow).Value = ProjID 'Set Project ID
144             ProjSkills.Range("E" & SkillDBRow).Value = SkillCol 'Set Skill Column
145             ProjSkills.Range("F" & SkillDBRow).Value = "=Row()" 'Set DB Row
146         Else 'Existing Skill
147             SkillDBRow = .Cells(100, SkillCol).Value 'Existing Skill DB Row
148         End If
149         ProjSkills.Range("B" & SkillDBRow).Value = .Cells(6, SkillCol).Value 'Skill Item
150         ProjSkills.Range("C" & SkillDBRow).Value = .Cells(7, SkillCol).Value 'Min. Skill
            Level
151         ProjSkills.Range("D" & SkillDBRow).Value = .Cells(8, SkillCol).Value 'Min. Staff @
            Skill level
152     Next SkillCol
153
154     'Update Assigned Employees
155     LastEmpRow = .Range("E99" ).End(xlUp).Row 'Last Employee Row
156     For EmpRow = 9 To LastEmpRow
157         If .Range("AM" & EmpRow).Value = Empty Then 'New Proj Employee
158             EmpDBRow = ProjEmpl.Range("A99999" ).End(xlUp).Row + 1
159             .Range("AM" & EmpRow).Value = EmpDBRow 'Set Proj Emp DB Row
160             ProjEmpl.Range("A" & EmpDBRow).Value = ProjID 'Set Project ID
161             ProjEmpl.Range("E" & EmpDBRow).Value = "=Row()" 'Set DB Row
162             ProjEmpl.Range("C1:D1" ).Copy 'Bring Over Empl. Rate/Position Formulas

```

1 2 3 4

```

1 2 3 4
163 ProjEmpl.Range("C" & EmpDBRow & ":D" & EmpDBRow).PasteSpecial xlPasteFormulas
    'Paste Rate & Position formulas
164 ProjEmpl.Range("G1" ).Copy 'Bring Over Empl. Rate/Position Formulas
165 ProjEmpl.Range("G" & EmpDBRow & ":G" & EmpDBRow).PasteSpecial xlPasteFormulas
    'Paste Total Amount formulas
166
167 'Set Updated or Default Project Hours
168 If .Range("B6" ).Value = 3 And .Range("F" & EmpRow).Value <> "" Then
169     ProjEmpl.Range("F" & EmpDBRow).Value = .Range("F" & EmpRow).Value 'Set To
    Proj Hours
170 Else:
171     ProjEmpl.Range("F" & EmpDBRow).Value = [WorkdayHrs] 'Set Default Workday
    Hours
172     ProjEmpl.Range("F" & EmpDBRow).Value = [WorkdayHrs] 'Set Default Workday
    Hours
173 End If
174
175 Else 'Existing Proj. Employee
176     EmpDBRow = .Range("AM" & EmpRow).Value 'Employee DB Row
177 End If
178 ProjEmpl.Range("B" & EmpDBRow).Value = .Range("E" & EmpRow).Value 'Employee
    Name
179
180 'Update daily project hours if hours is selected and different from DB
181 If .Range("B6" ).Value = 3 And ProjEmpl.Range("F" & EmpDBRow).Value <> .Range("F"
    & EmpRow).Value Then
182     ProjEmpl.Range("F" & EmpDBRow).Value = .Range("F" & EmpRow).Value 'Update
    Hours if applicable
183 End If
184 Next EmpRow
185 If .Range("B2" ).Value <> "" Then .Range("D" & .Range("B2" ).Value).Value = .Range(
    "J3" ).Value 'Update Project Name
186 Application.ScreenUpdating = True
187 Application.Calculation = xlCalculationAutomatic
188 End With
189 End Sub
190
191 Sub ProjectList_Load()
192 SkillsMatrix.Range("B2,D7:D999" ).ClearContents 'Clear Existing Projects
193 With Projects
194     LastRow = .Range("A99999" ).End(xlUp).Row
195     If LastRow < 3 Then Exit Sub
196     .Range("A3:I" & LastRow).AdvancedFilter xlFilterCopy, CriteriaRange:=.Range("M2:N3" ),
    CopyToRange:=.Range("Q2" ), Unique:=True
197     LastResultRow = .Range("Q99999" ).End(xlUp).Row
198     If LastResultRow < 3 Then Exit Sub
199     SkillsMatrix.Range("D7:D" & LastResultRow + 4).Value = .Range("Q3:Q" & LastResultRow)
    .Value 'List Of Project Names
200 End With
201 End Sub

```



```

1 Option Explicit
2 Dim SkillLev As Long, MaxSkill As Long, MinSkill As Long, SkillCol As Long, SkillRow As Long,
SkillsDBRow As Long, EmpDBRow As Long
3 Dim LastRow As Long, LastResultRow As Long, ResultRow As Long, LastEmpRow As Long, EmpRow As
Long, ProjEmpDBRow As Long, StaffQty As Long
4 Dim TeamName As String, EmpName As String
5 Dim LevRng As Range, FoundSkillRng As Range, FoundEmpRng As Range, ExistEmpRng As Range
6
7 Sub GenerateOptimalStaff()
8     With SkillsMatrix
9         Project_SaveUpdate 'Run Macro to save project
10        LastEmpRow = .Range("E99").End(xlUp).Row
11        If LastEmpRow > 8 Then
12            MsgBox "Please remove any existing employees or create a new project to add optimal
staff"
13            Exit Sub
14        End If
15        If .Range("W4").Value < 1 Then
16            MsgBox "Please make sure to add at least 1 required Staff for the project before
generating optimal staff"
17            Exit Sub
18        End If
19        If .Range("G6").Value = Empty Then
20            MsgBox "Make sure to add at least one skill before generating the optimal staff"
21            Exit Sub
22        End If
23
24        StaffQty = .Range("W4").Value 'Staff Qty
25        With Employees
26            On Error Resume Next
27            .Names("Criteria").Delete 'Delete any existing sheet criteria
28            On Error GoTo 0
29
30            LastRow = .Range("A99999").End(xlUp).Row
31            .Range("A2:AB" & LastRow).AdvancedFilter xlFilterCopy, , CopyToRange:=.Range(
"AH2:AJ2" ), Unique:=True
32            LastResultRow = .Range("AH99999").End(xlUp).Row
33            If LastResultRow < 3 Then Exit Sub
34            'Sort Based on Skill Rating
35            With .Sort
36                .SortFields.Clear
37                .SortFields.Add Key:=Employees.Range("AJ3" ), SortOn:=xlSortOnValues, Order:=
xlDescending, DataOption:=xlSortNormal 'Sort Based on HIghest Skill Rating
38                .SetRange Employees.Range("AH3:AJ" & LastResultRow)
39                .Apply
40            End With
41        End With
42        .Range("E9:F" & 9 + StaffQty - 1).Value = Employees.Range("AH3:AI" & 3 + StaffQty - 1
).Value
43        Project_SaveUpdate
44        Project_Load
45    End With
46 End Sub
47 Sub GetUniqueTeams()
48     With Employees
49         LastRow = .Range("A99999").End(xlUp).Row
50         If LastRow < 3 Then Exit Sub
51         On Error Resume Next
52         .Names("Criteria").Delete
53         On Error GoTo 0
54         .Range("E2:E" & LastRow).AdvancedFilter xlFilterCopy, , CopyToRange:=.Range("AE2" ),

```

```

1 2
Unique:=True
55 End With
56 End Sub
57 Sub Project_AddEmplOrTeam()
58 With SkillsMatrix
59 If .Range("F3").Value = Empty Then
60     MsgBox "Please select an Add Employee By option"
61     Exit Sub
62 End If
63 LastEmpRow = .Range("E99").End(xlUp).Row + 1 'Set Last Employee Row
64 If .Range("F3").Value = "Name" Then
65     If .Range("E4").Value = Empty Then
66         MsgBox "Please select an employe to add"
67         Exit Sub
68     End If
69     'Check For Duplicate Employee
70     Set FoundEmpRng = .Range("E9:E" & LastEmpRow).Find(.Range("E4").Value, , xlValues,
xlWhole)
71     If Not FoundEmpRng Is Nothing Then 'Employee Already Exists
72         MsgBox "Employee already exists within the Employee List below"
73         Exit Sub
74     End If
75     .Range("E" & LastEmpRow).Value = .Range("E4").Value 'Add Employee to First
avail row
76 ElseIf .Range("F3").Value = "Team" Then 'Add Team
77     LastRow = Employees.Range("A99999").End(xlUp).Row
78     If LastRow < 3 Then Exit Sub
79     Employees.Range("A2:E" & LastRow).AdvancedFilter xlFilterCopy, CriteriaRange:=
Employees.Range("AR2:AF3"), CopyToRange:=Employees.Range("AH2:AI2"), Unique:=True
80     LastResultRow = Employees.Range("AH99999").End(xlUp).Row
81
82     If LastResultRow < 3 Then Exit Sub
83
84     If LastEmpRow < 9 Then 'No Existing Employees, add entrie team
85         .Range("E" & LastEmpRow & ":F" & LastEmpRow + (LastResultRow - 3)).Value =
Employees.Range("AH3:AI" & LastResultRow).Value 'Add Team
86     Else '(Check If Employees Exists already)
87         .Range("B12").Value = False 'Set Duplicates found to false
88         Set ExistEmpRng = .Range("E9:E" & LastEmpRow)
89         For ResultRow = 3 To LastResultRow
90             EmpName = Employees.Range("AH" & ResultRow).Value
91             Set FoundEmpRng = ExistEmpRng.Find(EmpName, , xlValues, xlWhole)
92             If FoundEmpRng Is Nothing Then 'Employee Not Found
93                 .Range("E" & LastEmpRow & ":F" & LastEmpRow).Value = Employees.Range(
"AH" & ResultRow & ":AI" & ResultRow).Value 'Bring over Employee and
details
94                 LastEmpRow = LastEmpRow + 1
95             Else 'Duplicates found
96                 .Range("B12").Value = True 'Set Duplicates found to true
97             End If
98         Next ResultRow
99     End If
100
101 End If
102 Project_SaveUpdate
103 Project_Load
104 If .Range("B12").Value = True Then
105     MsgBox "Duplicate Employees were found when adding a new. Only unique employees
were added"
106     .Range("B12").Value = False 'set Duplicates back to false
107 End If

```

1 2

```

108
109     End With
110 End Sub
111
112
113 Sub Project_AddSkill()
114     With SkillsMatrix
115         SkillCol = .Range("AA6" ).End(xlToLeft).Column + 1
116         If SkillCol < 7 Then SkillCol = 7 'Set min Skill column
117         If SkillCol > 26 Then 'Max Skills already present
118             MsgBox "A maximum of 20 skills can be added"
119             Exit Sub
120         End If
121         If .Range("Z5" ).Value = Empty Then
122             MsgBox "Make sure to select a skill before adding it to the matrix"
123             Exit Sub
124         End If
125         'Check For Existing Skill
126         Set FoundSkillRng = .Range("G6:Z6" ).Find(.Range("Z5" ).Value, , xlValues, xlWhole)
127         If Not FoundSkillRng Is Nothing Then 'Skill already exists
128             MsgBox "This skill has already been added to the project"
129             .Cells(6, FoundSkillRng.Column).Select
130             Exit Sub
131         End If
132
133         .Cells(6, SkillCol).Value = .Range("Z5" ).Value 'Add Skill
134         Project_SaveUpdate
135         Project_Load
136     End With
137 End Sub
138
139 Sub Project_DeleteSkill()
140     With SkillsMatrix
141         If .Range("B7" ).Value = Empty Then Exit Sub
142         SkillCol = .Range("B7" ).Value 'Set Skill column
143         .Cells(6, SkillCol).ClearContents
144         If .Cells(100, SkillCol).Value <> Empty Then 'Delete DB Row
145             SkillsDBRow = .Cells(100, SkillCol).Value 'Skills DB Row
146             ProjSkills.Range(SkillsDBRow & ":" & SkillsDBRow).Delete
147             .Cells(100, SkillCol).ClearContents 'Clear DB Row
148         End If
149         .Shapes("DelSkillBtn" ).Visible = msoFalse
150         .Range("B7" ).ClearContents
151         Project_SaveUpdate
152         Project_Load
153     End With
154 End Sub
155
156 Sub Project_RemoveEmployee()
157     With SkillsMatrix
158         If .Range("B8" ).Value = Empty Then
159             MsgBox "Please select an employee to remove"
160             Exit Sub
161         End If
162         EmpRow = .Range("B8" ).Value 'Selected Employee Row
163         If .Range("AM" & EmpRow).Value <> Empty Then
164             ProjEmpDBRow = .Range("AM" & EmpRow).Value 'Project Employee Database Row
165             ProjEmpl.Range(ProjEmpDBRow & ":" & ProjEmpDBRow).EntireRow.Delete
166             .Shapes("DelEmplBtn" ).Visible = msoFalse
167             Project_Load
168         End If

```

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1 2
169 End With
170 End Sub
171
172 Sub SaveAsTeam()
173 With SkillsMatrix
174 If .Range("F5").Value = "Team Name" Or .Range("F5").Value = Empty Then
175     MsgBox "Please set a Team Name"
176     .Range("F5").Select
177     Exit Sub
178 End If
179 TeamName = .Range("F5").Value 'Team Name
180
181 If MsgBox("Are you sure you want to save all of the Employees to team " & TeamName &
182     "?", vbYesNo, "Save Team") = vbNo Then Exit Sub
183 LastEmpRow = .Range("E99999").End(xlUp).Row
184 If LastEmpRow < 9 Then
185     MsgBox "Please make sure to add at least 1 employee before saving a team"
186     Exit Sub
187 End If
188 For EmpRow = 9 To LastEmpRow
189     If .Range("AN" & EmpRow).Value <> Empty Then
190         EmpDBRow = .Range("AN" & EmpRow).Value 'Employee Database Row
191         Employees.Range("E" & EmpDBRow).Value = TeamName 'Set /Update Team Name
192     End If
193 Next EmpRow
194 GetUniqueTeams 'Run Macro to get Unique teams
195 If .Range("F3").Value = "Team" Then .Range("E4").Value = TeamName 'Set Team Name
196 .Range("F5").Value = "Team Name" 'Set Default text for enter team name
197 End With
198 End Sub
199
200
201 Sub SkillLevel_Down()
202 SkillLev = ActiveCell.Value
203 On Error Resume Next
204 Set LevRng = Admin.Range("Levels")
205 On Error GoTo 0
206 If LevRng Is Nothing Then
207     MsgBox "Please make sure to set levels in the Admin screen"
208     Exit Sub
209 End If
210 MinSkill = Application.WorksheetFunction.Min(LevRng)
211 If SkillLev <= MinSkill Then
212     MsgBox "Skill levels cannot go below " & MinSkill
213     ActiveCell.Value = MinSkill
214 Else
215     ActiveCell.Value = ActiveCell.Value - 1 'Increment Skill down
216 End If
217 End Sub
218
219 Sub SkillLevel_Up()
220 SkillLev = ActiveCell.Value
221 On Error Resume Next
222 Set LevRng = Admin.Range("Levels")
223 On Error GoTo 0
224 If LevRng Is Nothing Then
225     MsgBox "Please make sure to set levels in the Admin screen"
226     Exit Sub
227 End If
228 MaxSkill = Application.WorksheetFunction.Max(LevRng)
229 If SkillLev >= MaxSkill Then

```

1 2

```
229     1 2   MsgBox "Skill levels cannot go beyond " & MaxSkill
230         ActiveCell.Value = MaxSkill
231     } Else
232         ActiveCell.Value = ActiveCell.Value + 1 'Increment Skill
233     End If
234 End Sub
```

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Thank You!

This source code was created and made available to help you gain a better understanding of how VBA is used to create amazing Excel-based applications.

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