


Main Game Screen

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;">  <p>(Image Credit: boardgamegeek.com)</p> <p>© 2020 by Mahdi MN</p> </div> <div style="width: 60%;"> <h3 style="color: red;">Master Mind for Words</h3> <div style="margin-bottom: 10px;"> <div style="border: 1px solid gray; padding: 5px; width: 100px; text-align: center;">How It Works?</div> <p>Press one of the buttons to start. If you are a first timer, check the "How It Works".</p> </div> <div style="margin-bottom: 10px;"> <div style="border: 1px solid gray; padding: 5px; width: 100px; text-align: center;">Computer vs. User</div> <p>The user picks a word and the computer guesses the word. The user will score computer's guesses to guide it.</p> </div> <div style="margin-bottom: 10px;"> <div style="border: 1px solid gray; padding: 5px; width: 100px; text-align: center;">User vs. Computer</div> <p>The computer picks a word and the user guesses it, guided by the scores given by the computer.</p> </div> <div style="margin-bottom: 10px;"> <div style="border: 1px solid gray; padding: 5px; width: 100px; text-align: center;">Player 1 vs. Player 2</div> <p>One paleyer picks a word and types it in. The system will score the other player's guesses.</p> </div> <div> <div style="border: 1px solid gray; padding: 5px; width: 100px; text-align: center;">Go To Score Board</div> <p>See the recorded results so far.</p> </div> </div> </div>															
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

Game Screen / Computer vs. User Initial Dialog

	A	B	C	D	E	F	G	H
1								
2		Back to Game Menu		Reset Game Screen				
3								
4								
5	Count	Guessed	Correct Letters	Correct Places				
6								
7								
8								
9								
10								
11								
12								
13								

Letter Count
✕

Please select the count of letters in the words

▲

▼

OK

Cancel

Dialog Asking the User to Assess Initial Computer's Guess

Assuming that the user's selected word is "COVID", this random guess from the computer would get a 2 + 1 feedback by the user while comparing the guess ("CMWKI") against the selected word ("COVID"):

- ✓ 2 for the two letters that are in both the selected word and the guess ("C" and "I")
- ✓ 1 for the one letter that has appeared in its correct place ("I" is the fifth letter in both words)

	A	B	C	D	E	F
1						
2		Back to Game Menu		Reset Game Screen		
3						
4						
5	Count	Guessed	Correct Letters	Correct Places		
6	1	CMWKI			Charset	ABCDEFGHIJKLMNOPQRSTUVWXYZ
7						
8						
9						
10						
11						
12						
13						
14						
15						

User Scores Input

CMWKI

Correct Letters

2

Correct Positions

1

OK

Cancel

Similarly, here is the user's feedback for the computer's second random guess:

	A	B	C	D	E	F
1						
2		Back to Game Menu		Reset Game Screen		
3						
4						
5	Count	Guessed	Correct Letters	Correct Places		
6	1	CMWKI	2	1	Charset	ABCDEFGHIJKLMNOPQRSTUVWXYZ
7	2	XNDBV				
8						
9						
10						
11						
12						
13						
14						
15						

User Scores Input

XNDBV

Correct Letters

2

Correct Positions

0

OK

Cancel

User's feedback for the computer's third random guess:

	A	B	C	D	E	F
1						
2		Back to Game Menu		Reset Game Screen		
3						
4						
5	Count	Guessed	Correct Letters	Correct Places		
6	1	CMWKI	2	1	Charset	ABCDEFGHIJKLMNOPQRSTUVWXYZ
7	2	XNDBV	2	0		
8	3	RLYUG				
9						
10						
11						
12						
13						
14						
15						

User Scores Input

RLYUG

Correct Letters: Correct Positions:

OK Cancel

After the fourth guess, the computer would have enough information to begin computing its next guess. When the computation begins, you see additional information about what is the current word that the computer is considering, and that how many words the computer has considered so far, in cells F5 and G5 respectively. User's feedback to this guess (compared to the selected word, "COVID") is as follows:

	A	B	C	D	E	F	G	H	I
1									
2		Back to Game Menu		Reset Game Screen					
3									
4									
5	Count	Guessed	Correct Letters	Correct Places		CWXNH	1726		
6	1	CMWKI	2	1	Charset 1	CMWKINDBVSOAJH			
7	2	XNDBV	2	0	Charset 2	CMWKIXDBVSOAJH			
8	3	RLYUG	0	0	Charset 3	CMWKIXNBVSOAJH			
9	4	SOAJH	1	1	Charset 4	CMWKIXNDVSOAJH			
10	5	CWXNH			Charset 5	CMWKIXNDBSOAJH			
11									
12									
13									
14									

User Scores Input

CWXNH

Correct Letters: Correct Positions:

OK Cancel

The computer gets closer and closer to the selected word if the user feedback are correct:

	A	B	C	D	E	F	G	H	I
1									
2		Back to Game Menu		Reset Game Screen					
3									
4									
5	Count	Guessed	Correct Letters	Correct Places		COVID	13328		
6	1	CMWKI	2	1	Charset 1	CMWKINDBVSOAJH	<div> <div>User Scores Input</div> <div>COVID</div> <div> <div>Correct Letters</div> <div>Correct Positions</div> </div> <div> <div>OK</div> <div>Cancel</div> </div> </div>		
7	2	XNDBV	2	0	Charset 2	CMWKIXDBVSOAJH			
8	3	RLYUG	0	0	Charset 3	CMWKIXNBVSOAJH			
9	4	SOAJH	1	1	Charset 4	CMWKIXNDVSOAJH			
10	5	CWXNH	1	1	Charset 5	CMWKIXNDBSOAJH			
11	6	CKBJD	2	2					
12	7	CIAVD	4	2					
13	8	COVID							
14									

If there are a mistake by the user in giving accurate feedback to the computer, the user will be prompted about a potential mistake. For example, in the previous dialog, the correct feedback would be 5 + 5 (five correct letters, and 5 letters in their correct place), but the user has wrongfully entered 3 + 3 which makes the algorithm confused. Thus, the following dialog is shown:

	A	B	C	D	E	F	G
1							
2		Back to Game Menu		Reset Game Screen			
3							
4							
5	Count	Guessed	Correct Letters	Correct Places		HJAOS	256161
6	1	CMWKI	2	1	Charset 1	H	
7	2	XNDBV	2	0	Charset 2	CMWKIXDBVSOAJH	
8	3	RLYUG	0	0	Charset 3	CMWKIXNBVSOAJH	
9	4	SOAJH	1	1	Charset 4	CMWKIXNDVSOAJH	
10	5	CWXNH	1	1	Charset 5	CMWKIXNDBSOAJH	
11	6	CKBJD	2	2			
12	7	CIAVD	4	2			
13	8	COVID	3	3			
14							
15							
16							
17							

The user is then prompted to enter the selected word, so the computer would check the given feedbacks by the user and find which score(s) had been problematic:

	A	B	C	D	E	F	G	H	I
1									
2		Back to Game Menu		Reset Game Screen					
3									
4									
5	Count	Guessed	Correct Letters	Correct Places		HJAOS	256161		
6	1	CMWKI	2	1	Charset 1	H			
7	2	XNDBV	2	0	Charset 2	CMWKIXDBVSOAJH			
8	3	RLYUG	0	0	Charset 3	CMWKIXNBVSOAJH			
9	4	SOAJH	1	1	Charset 4	CMWKIXNDVSOAJH			
10	5	CWXNH	1	1	Charset 5	CMWKIXNDBSOAJH			
11	6	CKBJD	2	2					
12	7	CIAVD	4	2					
13	8	COVID	3	3					
14									
15									
16									
17									

Microsoft Excel

Enter the word you had selected, to find the mistake:

OK Cancel

COVID

And then shows potential problems:

	A	B	C	D	E	F
1						
2		Back to Game Menu		Reset Game Screen		
3						
4						
5	Count	Guessed	Correct Letters	Correct Places	Recalc Letters	Recalc Places
6	1	CMWKI	2	1		
7	2	XNDBV	2	0		
8	3	RLYUG	0	0		
9	4	SOAJH	1	1		
10	5	CWXNH	1	1		
11	6	CKBJD	2	2		
12	7	CIAVD	4	2		
13	8	COVID	3	3	5	5