The Nicest Sudoku Solution

Puzzle: Yannick Yao
Solution: Yannick Yao
Answer: WITCH HUNT

This puzzle challenges the solvers to construct a special kind of Sudoku grid that satisfy not only the ordinary rules of Sudoku, but also three additional rules that resemble the original three. One may approach this construction challenge by first filling in the first row, column, box, and the top left squares of each box, and then use logical deduction to fill in the rest. One possible solution is as follows:

1	2	3	4	5	6	7	8	9
5	6	4	8	9	7	2	3	1
9	7	8	3	1	2	6	4	5
6	4	5	9	7	8	3	1	2
7	8	9	1	2	3	4	5	6
2	3	1	5	6	4	8	9	7
8	9	7	2	3	1	5	6	4
3	1	2	6	4	5	9	7	8
4	5	6	7	8	9	1	2	3

Once a valid grid has been submitted to HQ, one representative will visit the team and give them a grid of letters. The grid of letters is generated based on the team's submitted Sudoku (though not uniquely determined by the submission). For example, the solution above could generate the following grid.

O	I	S	P	C	T	E	P	P
E	N	Y	E	T	T	L	T	W
U	P	A	A	S	H	G	I	A
N	C	I	N	O	L	R	H	H
U	N	R	E	G	A	S	T	H
H	I	O	E	I	L	I	O	O
A	M	N	G	S	L	H	E	A
H	E	I	L	E	S	A	R	P
T	T	E	P	G	A	M	T	C

Though this puzzle has many constraints, one aspect that has not been used are the numbers themselves. This motivates looking at the letters correspond to each number. As it turns out, the nine letters corresponding to each number anagrams to a word that is somewhat related to “nice” (relating back to the title). Index the corresponding number into the words give the answer **WITCH HUNT**.

1 **W**HOLESOME
2 H**I**GHLIGHT
3 CA**T**HARSIS
4 SPE**C**IALTY
5 AEST**H**ETIC
6 ENLIG**H**TEN
7 OPPORT**U**NE
8 APPEALI**N**G
9 PARAMOUN**T**

Author note: The Sudoku constructed in this puzzle belongs to a fairly niche variant of Sudoku known as Hypercube Sudoku (see Mathematics of Sudoku), since it can be interpreted as putting numbers in a 3x3x3x3 grid such that any 2-dimensional slice has all 9 distinct numbers. Guenter Stertenbrink, who has done detailed research on this type of Sudoku, described it as “more natural, symmetrical, canonical, mathematical than normal sudoku.” (See http://magictour.free.fr/sudoku6 for more details.)