Parallel BVH Construction for Real-Time Ray Tracing

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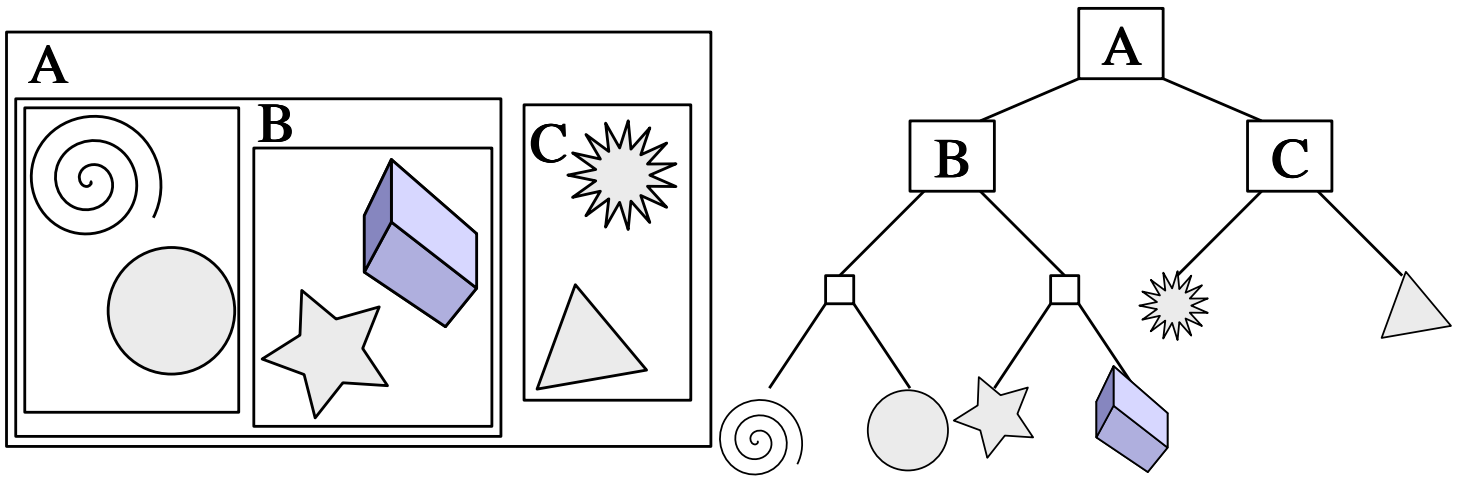
April 30, 2015

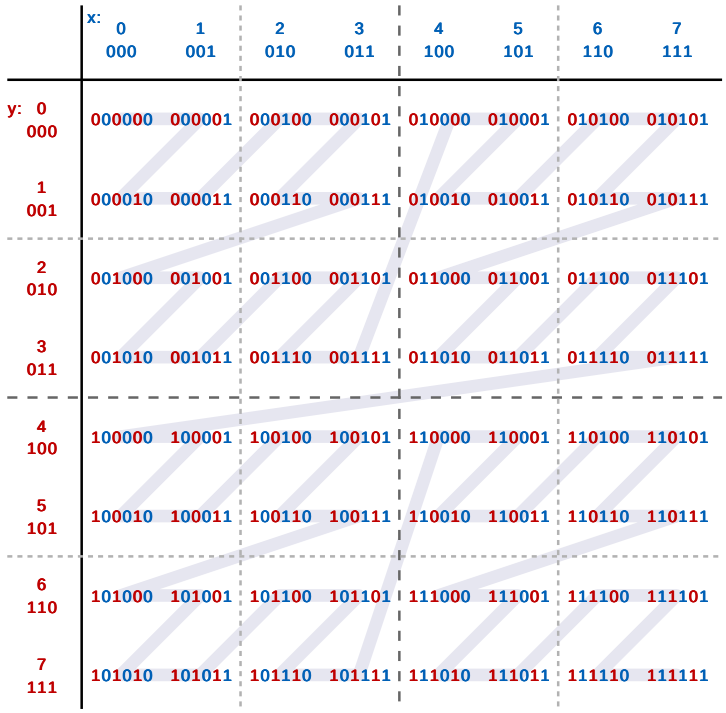
Outline

BVH Example

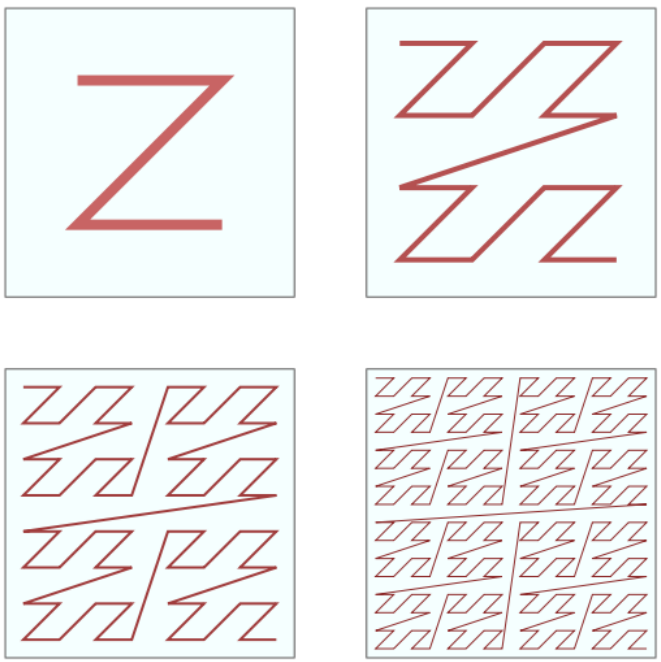


Morton Codes

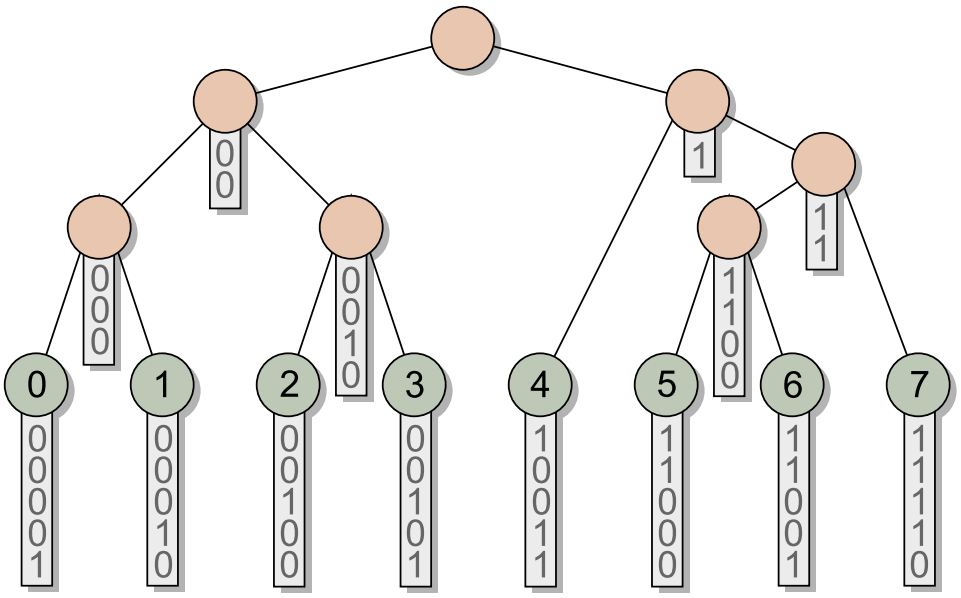
- Interleave binary representations of coordinate values
- Transforms multidimensional coordinates into a single value
- Morton Code contains location information
- Used to sort objects



Shape of a Z-order Curve



Binary Radix Tree Example



	x: 0 000	1 001	2 010	3 011	4 100	5 101	6 110	7 111
y: 0 000	000000	000001	000100	000101	010000	010001	010100	010101
1 001	000010	000011	000110	000111	010010	010011	010110	010111
2 010	001000	001001	001100	001101	011000	011001	011100	011101
3 011	001010	001011	001110	001111	011010	011011	011110	011111
4 100	100000	100001	100100	100101	110000	110001	110100	110101
5 101	100010	100011	100110	100111	110010	110011	110110	110111
6 110	101000	101001	101100	101101	111000	111001	111100	111101
7 111	101010	101011	101110	101111	111010	111011	111110	111111

Discussion

Questions?