

Index Structures



AU--
BA

BE--
BIO

BIR--
BLY

17 GEOL--
GY

30

OT--
PE

HISTORY OF T

19

SA



- 
- ① Ignore Signs
- ② Follow Signs

Foggenhorn
2'569 m

Nessel

Birgisch



Nessjeri

1h

2h 35

Alpe Bäll

Belalp

1h 35

1h 55

Seminole

Drive

EAST



Thunder
Road

Apache

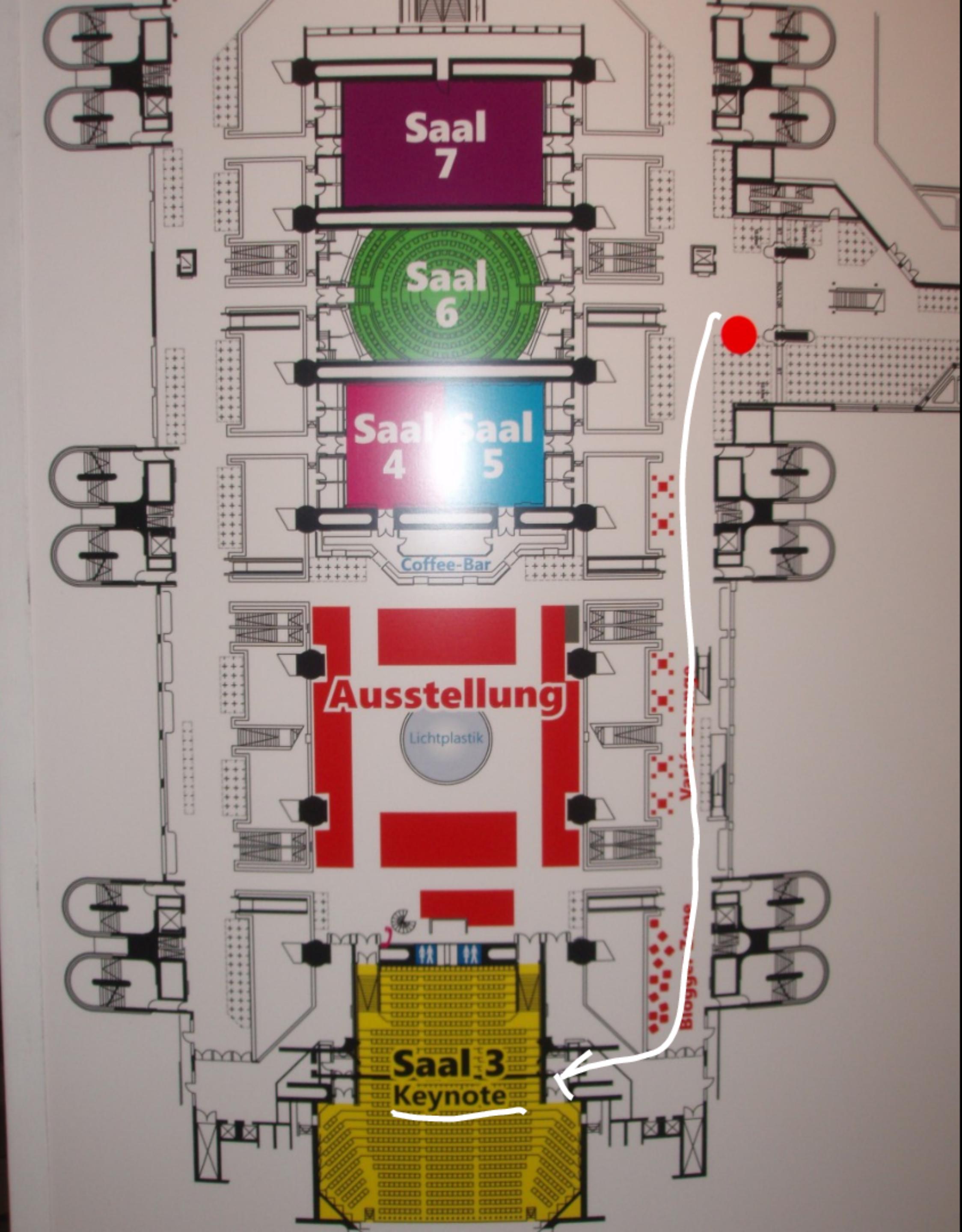
Trail

SOUTH

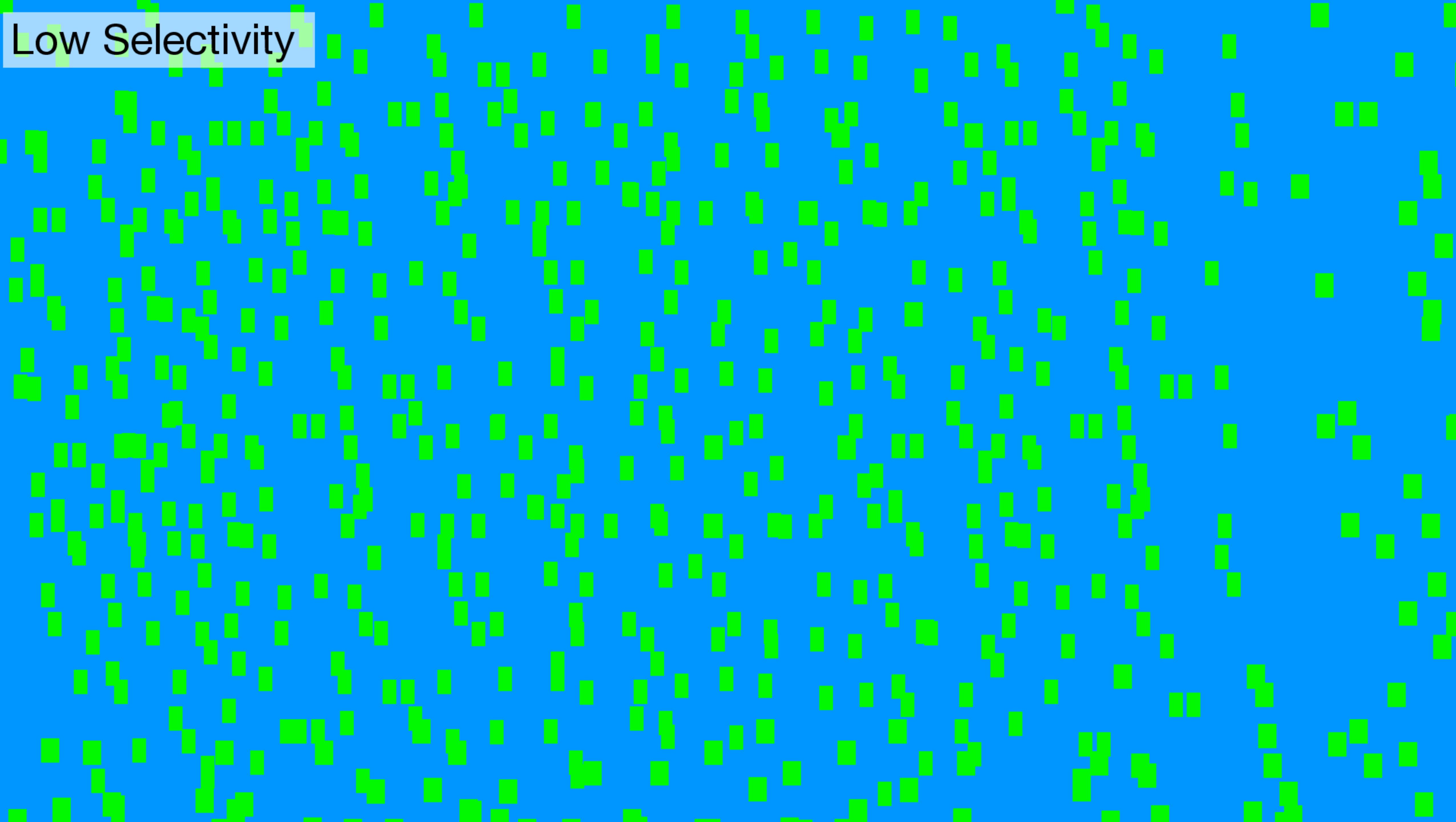
WEST



Los Angeles



015	Thakkar Hannah 24 Carter Rd Chel.....	978 250-2447
200	Thakkar Paresh & Parul 36 Arlington Atn.....	978 692-1400
57	Thakrar Bhavna & Kiran 47 Russell St Wsd.....	978 341-6616
14	Thakur Aman 3 Trailside Wy Wsd.....	978 693-7450
84	Vijay & Gwyn 10 Lady Slipper Ln Atn.....	978 244-4109
58	Thaller Kurt & Carol 10 Knowlton Dr Atn.....	978 263-6666
66	Thandapani Suresh 8 Meyer Hill Dr Atn.....	978 929-9557
9	Tharp Lisa Kauffman 10 Dunham Ln Acton.....	978 897-5995
7	Thatcher Bruce M 5 Till Dr Atn.....	978 635-9889
2	Thatcher Patricia 23 Turtle Dr Acton.....	978 263-0205
2	Thatcher Photography 5 Till Dr Atn.....	978 929-0880
2	Thatcher R 102 Willow W Atn.....	978 263-8087
2	Thaure Frederic & Lisa 8 Heather Hill Rd Atn.....	978 263-1342
2	Thayer Kent & Astrid 45 Parkerville Rd Chel.....	978 244-9260
2	Wm H Jr 47 North Rd Chel.....	978 256-5156
2	Wm & Teresa 46 Sylvan Av Chel.....	978 256-5645
The Courtyard Condominium		
2	360 Littleton Rd Chel.....	978 250-2447
2	The Family Eye Care Center 133 Littleton Rd Wsd..	978 692-1400
2	The Gill Group 1 Courthouse Ln Chel.....	978 453-5115
2	The Gutierrez Co 2 Technology Pk Dr Wsd.....	978 589-8247
2	The Mill 481 Great Rd Atn.....	978 263-9989
2	The Movement Center Dance Studio	978 260-4581

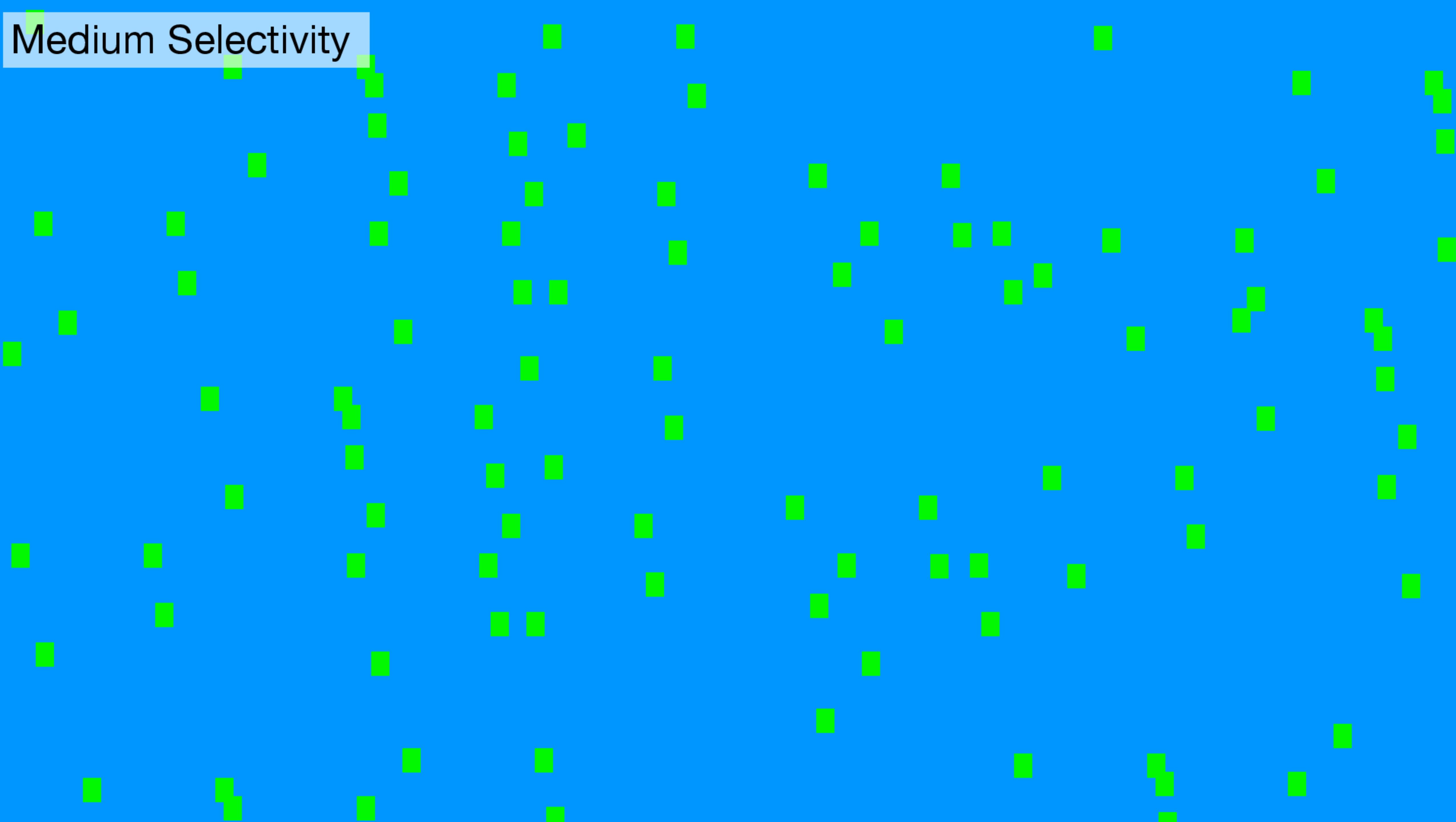


Selectivity

$$\text{sel} := \frac{|\sigma_{a=42}(R)|}{|R|} \leq 1$$

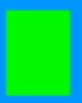
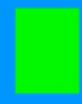
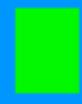
High Selectivity $\frac{5}{10000} = 0.0005$

Low Selectivity $\frac{1000}{10000} = 0.1$



Medium Selectivity

High Selectivity



The “Who Needs Indexes Anyway?” Trap

random access is expensive



disk seek

The “Who Needs Indexes Anyway?“ Trap

random access is expensive

sequential access is cheap

=> no need to selectively access data

=> no need for data structures/indexes

=> for any query: just scan the data

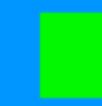
(plain wrong!)

dangrous

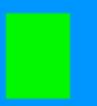
■ 70ns



■ 70ns



■ 10ns



1 F13 , 100 MJ/sec

10,000 sec

vs

0.05 sec



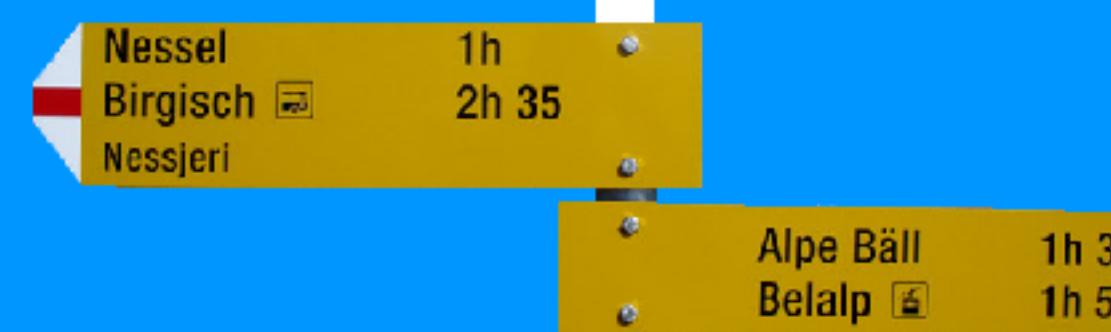
“But I have all my data in main
memory!”

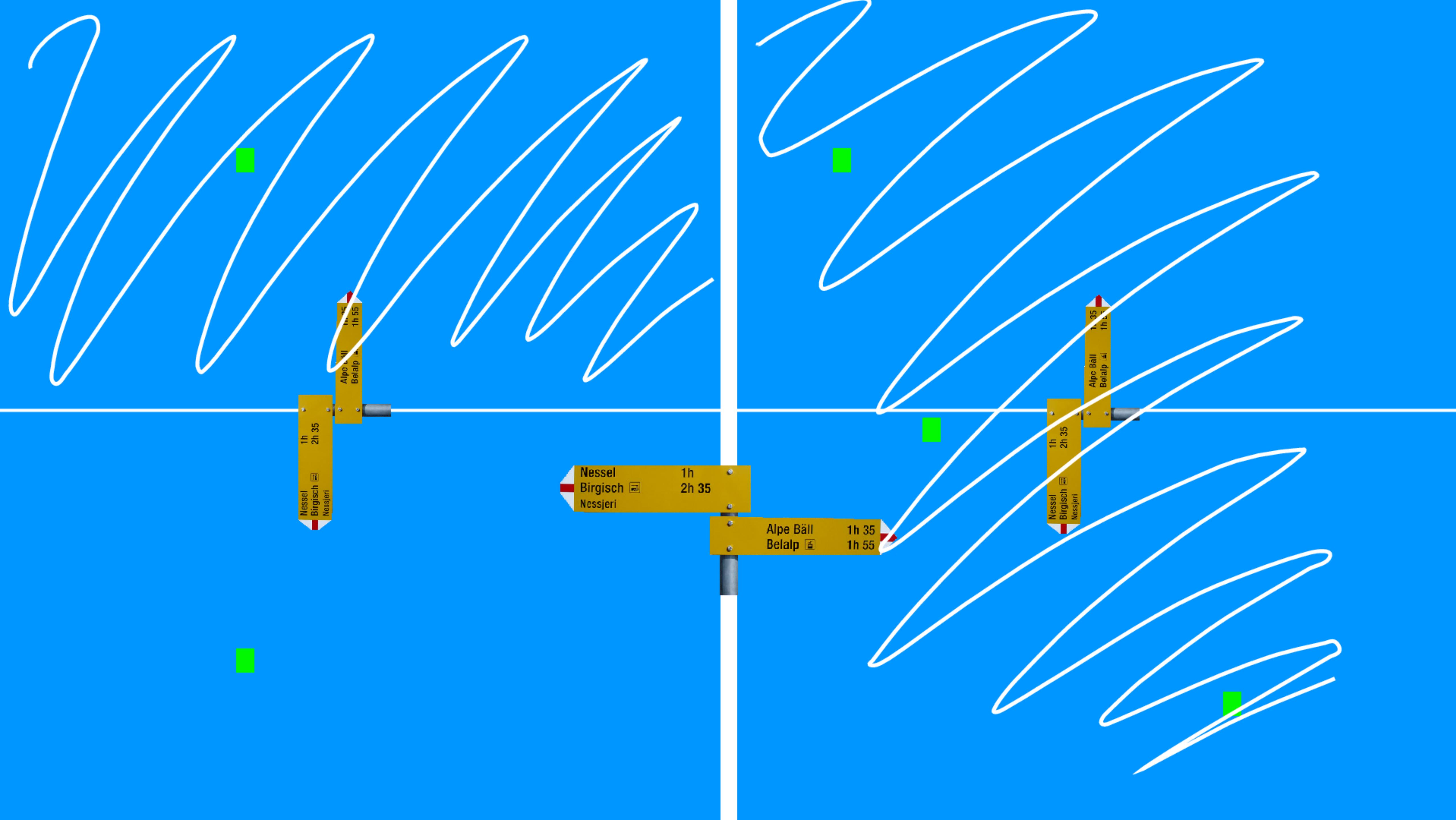
1 TB , 10 GB/sec

100 sec

vs

0.0000005 sec





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other:

Jens Dittrich

“Caveman Chuck” Coker

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