TimeSearcher

visualizing and querying time
Why?

1. Visualize

2. Query

3. Interpret
TimeSearcher v1

- Developed between 2000 and 2001
- Conceptual approach
- Several interesting time query widgets
Demo
TimeSearcher v2
TimeSearcher v2

Introduction of a SearchBox to specify query parameters
TimeSearcher v2

Introduction of a SearchBox to specify query parameters

• v1:
  timebox used to filter data and run queries
TimeSearcher v2

Introduction of a SearchBox to specify query parameters

- v1:
  timebox used to filter data and run queries

- v2:
TimeSearcher v2

Introduction of a SearchBox to specify query parameters

• v1: timebox used to filter data and run queries

• v2:
  • timebox used to limit scope
TimeSearcher v2

Introduction of a SearchBox to specify query parameters

- v1:
  timebox used to filter data and run queries

- v2:
  - timebox used to limit scope
  - searchbox used to perform a specific pattern search
Interface
Interface
3-step interactive search
3-step interactive search

- **Reduce** the scope with a timebox
3-step interactive search

- **Reduce** the scope with a timebox

- **Specify** a pattern with a searchbox
3-step interactive search

• **Reduce** the scope with a timebox

• **Specify** a *pattern* with a searchbox

• **Refine** the query’s *precision* (slider)
Search Algorithm:
2 modes
Search Algorithm:
2 modes

Euclidian Distance:
average of differences
Search Algorithm:

2 modes

Envelope:
boundary values
Search Algorithm:
4 modifiers
Search Algorithm:

4 modifiers

Linear trend removal:

*absolute value of the slopes taken*
Search Algorithm:
4 modifiers

Amplitude scaling: \( \text{divided by the variance} \)
Search Algorithm:
4 modifiers

Offset translation
the mean is subtracted
Search Algorithm:
4 modifiers

Noise removal:
values averaged
Limitations
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- No statistic to search the results
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- No statistic to search the results
- No multiple, simultaneous pattern searching
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- No user-defined simple patterns
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- Limited to small datasets
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- No statistic to search the results
- No multiple, simultaneous pattern searching
- No user-defined simple patterns
- Limited to small datasets
- Slow response time and frequent crashes
interpretation
interpretation

Business Q

Stock prices?
interpretation

Stock prices?

Business Q

TimeSearcher Q
interpretation

Stock prices?

Business Q

TimeSearcher Q

TimeSearcher A
interpretation

Business Q

Stock prices?

Business A

TimeSearcher Q

TimeSearcher A