

MatrixMiner: Tutorial for the User Study

We want to evaluate Product Comparison Matrices (PCMs) extracted from informal product descriptions (textual overviews). The tool offers ways to visualize the PCM with a traceability with the original product overview and the specification. For each cell value, the feature name and the cell value are highlighted in the text, and at the same time the corresponding specification is displayed.

Feature	Value
Hard Drive Capacity	500 gigabytes
Hard Drive RPM	5400 revolutions per minute
Hard Drive Type	SATA

Figure 1. Overview of the environment during PCMs evaluation.

We display one column at a time and you have to attribute scores for the feature and cell values. Please follow these instructions:

1. You have to validate or not features and cell values in the PCMs against the information contained in the original product overview (at the left) and not the specification (see figure 1 - 1)
 - look at each feature in the PCM and state whether the feature is : correct, incorrect*, incomplete* or irrelevant.
 - look at each cell value in the PCM and state whether the expected cell value is correct, incorrect*, incomplete* or missing*.

*We recommend you to propose a correction (see example in figure 2).

To help you during this task, we provide you with an example of PCM and the corresponding evaluation of features and cell values under different scenarios (see figures 4 and 5 in the last page).

2. Evaluate the overlap between PCM and the specification.

Specify whether the PCM contains more/less refined information (features and cell values) than in the specification (see figure 1 - 2).

- PCM < Spec: the PCM contains less information comparing to the specification. See example of the cell value overlap in figure 1.
- PCM = Spec: both contain the same information. See example in figure 2.
- PCM > Spec: the PCM contains more information comparing to the specification. See example in figure 3.
- incomparable: the information in the PCM and the specification are incomparable.

3. You can add a comment at the end of the evaluation of each column (see figure 1 - 3)

ghz

1.7

2.4

2.2

2.0

2.2

1.9

2.4

2.1

2.2

2.4

1/10

Evaluation

Feature:

☐ Correct
 ☒ Incorrect
 ☐ Incomplete
 ☐ Irrelevant

Correct value:

PCM VS Specification:

☒ PCM = Spec
 ☐ PCM < Spec
 ☐ PCM > Spec
 ☐ Incomparable

Product 1921062:

Value:

☒ Correct
 ☐ Incorrect
 ☐ Incomplete
 ☐ Missing

PCM VS Specification:

☒ PCM = Spec
 ☐ PCM < Spec
 ☐ PCM > Spec
 ☐ Incomparable

Comments

Enter your comments here

Textual overview

This HP Pavilion 17-f215dx laptop's 17.3" WLED-backlit display showcases visuals in realistic high-definition, and an HDMI output lets you connect to an external display. Built-in wireless networking makes it easy to access your favorite Web content. Learn more about the New Windows 5th Gen Intel® Core™ i5-5200U processor
Features a 3MB L3 cache and **2.2GHz processor speed**

Specification

Feature	Value
Processor Speed	2.2 gigahertz

Figure 2. Example of overlap between the PCM and the specification where PCM = Spec.

media reader

multiformat

digital

multiformat

digital

digital

digital

digital

digital

Evaluation

Feature:

☒ Correct
☐ Incorrect
☐ Incomplete
☐ Irrelevant

Correct value: Processor Speed

PCM VS Specification:

☐ PCM = Spec
☐ PCM < Spec
☒ PCM > Spec
☐ Incomparable

Product 1921062:

Value:

☒ Correct
☐ Incorrect
☐ Incomplete
☐ Missing

PCM VS Specification:

☐ PCM = Spec
☐ PCM < Spec
☒ PCM > Spec
☐ Incomparable

Comments

Enter your comments here

Textual overview

Built-in TrueVision high-definition webcam

Makes it easy to video chat with family and friends.

Multiformat media reader

Supports SD format.

1 IEEE 1394 interface, 2 USB 3.0 ports and 1 USB 2.0 port

For fast data transfer and easy peripheral connectivity.

Built-in high-speed wireless LAN (802.11b/g/n)

Connect to the Internet without wires.

Built-in 10/100Base-T Ethernet LAN

With RJ-45 connector for quick and easy wired Web connection.

Specification

Feature	Value
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Figure 3. Example of overlap between the PCM and the specification where PCM > Spec.

Product	Resolution	Ghz	USB	Boost	Drive	Navigation	Intel
Find							
Lenovo	1366 x 768	2.1	2	up to 3.1 ghz	Hard	simple	inside
Hp1	1920 x 1080	1.7	3	up to 2.6 ghz	Serial ATA Hard	web	inside
Toshiba	1366 x 768	2.4	3		Hard		inside
Dell1	1600 x 900	1.7	2	up to 3.5 ghz	Serial ATA Hard	simple	inside
Hp2	1920 x 1080	2.4	2	up to 2.7 ghz	Hard	simple	inside
Dell2	1920 x 1080	2.1	2	up to 3.1 ghz	Hard	web	inside
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Figure 4. Example of PCM.

F1	correct		C1	correct
F2	Incorrect (% text)	Correct: Processor Speed (in the text)	C2	correct
F3	correct		C4	missing (this information <u>exists in the text</u>)
F4	Incomplete (% text)	Complete: Turbo Boost (in the text)	C5	Incomplete (in the text it is "serial ATA hard" drive)
F5	correct		C6	correct (not missing) because this information <u>does not exist in the text.</u>
F7	irrelevant		C7	correct

Figure 5. Reading grid of cases.