

# Software patents and program developments

Athena Telecom Lab, Inc.



31 May 2012

- ◆ Patent Law, enacted by each country. PCT is ...
- ◆ Software patent
  - Common to most patent laws
    - Patent as equivalent hardware structure
    - Method relating to hardware
- ◆ Ask to patent attorney ? Patent procedures by inventor ?
- ◆ Patent strategy
  - Trial is no purpose.
  - However, we have to prepare conditions, by which we can win the trial, for advantageous negotiation.
- ◆ To what country do we submit patent application ?
  - JPO , USPTO ,SIPO ...
- ◆ Employee's invention

## Matters to be considered

The screenshot shows a web browser window with the URL <https://ppair.uspto.gov/epatent/portal/home>. The page header includes the USPTO logo and navigation links: Home, Site Index, Search, FAQ, Glossary, Guides, Contacts, eBusiness, eBiz Alerts, News, and Help. Below the header is a secondary navigation bar with links for Portal Home, Patents, Trademarks, and Other.

The main content area is divided into two columns. The left column, titled "USPTO Information", contains links for Employee & Office Directories, Resources & Public Notices, Copies, Products & Services, and an "Other" section with links for Copyrights, Trademarks, Policy & Law, and Reports.

The right column, titled "Portal Applications", features a section for "Patent Application Information Retrieval (PAIR)". This section includes a list of bullet points:

- Display issued or published patent application status.
- Access public application image file wrapper, including: patents, published application documents and applications to which a patented or published application claims domestic priority.
- Private PAIR for [Registered customers](#) provides secure access to your pending application documents.

Below the list are links for [Public PAIR >](#) and [Private PAIR >](#). A second bullet point states:

- Search class/subclass combinations associated with each Group Art Unit for patent examination purposes.

This is followed by a link for [GAU - Class/Subclass Search >](#).

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Links for [eFile \(Unregistered\) >](#) and [eFile \(Registered\) >](#) are provided.

The final section visible is "Trademark Document Retrieval (TDR)".

# USPTO, United States Patent and Trademark Office

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Application	Patent	Earliest Publication	Attorney Docket No.	Status Date	Filing or 371(c) Date	Image File Wrapper
<a href="#">13/251,295</a>	-	US 2012-0023100 A1	-	02-21-2012	10-03-2011	<a href="#">View</a>
<a href="#">13/024,330</a>	-	US 2011-0137862 A1	-	05-03-2012	02-10-2011	<a href="#">View</a>
<a href="#">12/996,382</a>	-	US 2011-0093770 A1	-	05-11-2012	12-03-2010	<a href="#">View</a>
<a href="#">12/995,158</a>	-	-	-	11-29-2010	-	<a href="#">View</a>
<a href="#">12/864,872</a>	-	US 2011-0082833 A1	-	05-16-2012	11-18-2010	<a href="#">View</a>
<a href="#">12/743,367</a>	-	US 2011-0161292 A1	-	04-19-2012	10-12-2010	<a href="#">View</a>
<a href="#">12/688,854</a>	8,171,003	US 2010-0131479 A1	-	04-11-2012	01-15-2010	<a href="#">View</a>
<a href="#">12/601,005</a>	-	US 2010-0198789 A1	-	06-13-2011	04-13-2010	<a href="#">View</a>
<a href="#">09/117,669</a>	6,526,455	-	-	02-06-2003	08-04-1998	<a href="#">View</a>

**Results sorted by Application Number Descending**

1: 13251295 - 09117669

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**Available Documents**

Mail Room Date	Document Code	Document Description	Document Category	Page Count	PDF
05-15-2012	NOA	<a href="#">Notice of Allowance and Fees Due (PTOL-85)</a>	PROSECUTION	5	<input type="checkbox"/>
05-15-2012	892	<a href="#">List of references cited by examiner</a>	PROSECUTION	1	<input type="checkbox"/>
05-15-2012	SRNT	<a href="#">Examiner's search strategy and results</a>	PROSECUTION	5	<input type="checkbox"/>
05-15-2012	1449	<a href="#">List of References cited by applicant and considered by examiner</a>	PROSECUTION	2	<input type="checkbox"/>
05-15-2012	SRFW	<a href="#">Search information including classification, databases and other search related notes</a>	PROSECUTION	1	<input type="checkbox"/>
05-15-2012	SRNT	<a href="#">Examiner's search strategy and results</a>	PROSECUTION	2	<input type="checkbox"/>
05-15-2012	SRNT	<a href="#">Examiner's search strategy and results</a>	PROSECUTION	5	<input type="checkbox"/>
05-15-2012	IIFW	<a href="#">Issue Information including classification, examiner, name, claim, renumbering, etc.</a>	PROSECUTION	1	<input type="checkbox"/>
05-15-2012	OA.EMAIL	<a href="#">Email Notification</a>	PROSECUTION	1	<input type="checkbox"/>
02-23-2012	LET.	<a href="#">Miscellaneous Incoming Letter</a>	PROSECUTION	1	<input type="checkbox"/>
02-19-2012	LET.	<a href="#">Miscellaneous Incoming Letter</a>	PROSECUTION	1	<input type="checkbox"/>

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**The Director of the United States Patent and Trademark Office**

*Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.*

Therefore, this

**United States Patent**

*Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, or importing into the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.*

*David J. Kappas*

Director of the United States Patent and Trademark Office



US008171003B2

**(12) United States Patent  
Kamimura**

**(10) Patent No.: US 8,171,003 B2  
(45) Date of Patent: May 1, 2012**

- (54) **METHOD AND APPARATUS FOR CHANGING REFERENCE OF DATABASE** 5,870,765 A 2/1999 Bauer et al.  
5,884,325 A 3/1999 Bauer et al.  
5,890,176 A 3/1999 Kish et al.  
(76) Inventor: **Kunio Kamimura, Koganei (JP)** 5,926,816 A 7/1999 Bauer et al.  
6,088,694 A \* 7/2000 Burns et al. I/1  
6,151,606 A 11/2000 Mendez  
(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. 6,343,299 B1 1/2002 Huang et al.  
(Continued)

**FOREIGN PATENT DOCUMENTS**

- (21) Appl. No.: **12/688,854**  
(22) Filed: **Jan. 15, 2010**  
(65) **Prior Publication Data**  
US 2010/0131479 A1 May 27, 2010  
**Related U.S. Application Data**  
(63) Continuation-in-part of application No. 12/601,005, filed as application No. PCT/JP2008/001424 on Jun. 4, 2008.  
(30) **Foreign Application Priority Data**  
Jun. 6, 2007 (JP) ..... 2007-150665  
Jun. 4, 2008 (WO) ..... PCT/JP2008/001424  
Jun. 12, 2008 (WO) ..... PCT/JP2008/001506  
Jun. 3, 2009 (WO) ..... PCT/JP2009/002490  
Jun. 3, 2009 (WO) ..... PCT/JP2009/002491

- JP S61-134853 A 6/1986  
(Continued)

**OTHER PUBLICATIONS**

Athena Telecom Lab, Inc., "New developing project spreading over the world", web contents referenced from <http://www.atele.com>, uploaded from Mar. 9, 2009 to Apr. 23, 2009.  
(Continued)

Primary Examiner — Brent Stace

**(57) ABSTRACT**

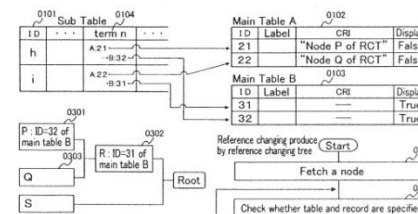
Introduced is information that indicates a changing of "a reference that points a referenced record" to "another reference that points another record". This information is named as "changing reference information (CRI)" and is registered to a referred record. When accessing a referencing record, there is a possibility to access referenced record by necessity of a program or an operator. At this time, CRI registered to originally referenced record is accessed. And the reference is changed to new record as indicated by the CRI. Thus, status of a DB in a device is changed by the invention. When PCs have reproduced DBs that are copy of the original and edit their own reproduced DBs so as to change a reference, these editorial contents with CRI will be propagated to other PCs. Other PCs change references of their reproduced DBs according to the CRIs.

- (51) **Int. Cl.** ..... (2006.01)  
**G06F 7/00** (2006.01)  
**G06F 17/30** (2006.01)  
**G06F 12/00** (2006.01)  
(52) **U.S. Cl.** ..... **707/694; 707/813**  
(58) **Field of Classification Search** ..... **707/690, 707/694, 687, 813-820, 999.2, 999.201, 707/999.205, 999.206, 999.1, 999.101**  
See application file for complete search history.

**(56) References Cited**

- U.S. PATENT DOCUMENTS**  
5,325,496 A 6/1994 Hays et al.  
5,504,879 A \* 4/1996 Eisenberg et al. I/1

**9 Claims, 7 Drawing Sheets**





US008171003B2

(12) **United States Patent**  
**Kamimura**

(10) **Patent No.:** **US 8,171,003 B2**  
(45) **Date of Patent:** **May 1, 2012**

(54) **METHOD AND APPARATUS FOR CHANGING REFERENCE OF DATABASE**

(76) **Inventor:** **Kunio Kamimura, Koganei (JP)**

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

5,870,765 A	2/1999	Bauer et al.	
5,884,325 A	3/1999	Bauer et al.	
5,890,176 A	3/1999	Kish et al.	
5,926,816 A	7/1999	Bauer et al.	
6,088,694 A *	7/2000	Burns et al.	1/1
6,151,606 A	11/2000	Mendez	
6,343,299 B1	1/2002	Huang et al.	

(Continued)

**FOREIGN PATENT DOCUMENTS**

JP S61-134853 A 6/1986

(Continued)

(21) **Appl. No.:** **12/688,854**

(22) **Filed:** **Jan. 15, 2010**

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(Continued)

(30) **Foreign Application Priority Data**

*Primary Examiner* — Brent Stace

インターネット出願

ファイル(F) オンライン(O) 目録(M) 表示(V) ツール(T) ヘルプ(H)

文書入力 合成入力 表示 印刷 出願 ヘルプ

出願	発送	請求	閲覧	補助	国際出願	証明書	結果	四法	手続名	整理番号	件名及び事件の表示	出願番号	提出日	頁
出願							接受	特許	特許料納付書			特願2010-260142	2012/02/06	---
GUEST							接受	特許	意見書			特願2010-260142	2011/12/21	---
利用者 1							接受	特許	手続補正書			特願2010-260142	2011/11/21	---
入力チェック結果							接受	特許	早期審査に関する事情説明書			特願2010-260142	2011/11/14	---
送信ファイル							接受	特許	上申書			特願2010-260142	2011/11/14	---
受理済							接受	特許	手続補正書			特願2010-260142	2011/11/14	---
受領書							接受	特許	特許料納付書			特願2010-515778	2011/10/26	---
通信履歴							接受	特許	特許料納付書			特願2010-515775	2011/10/26	---
							接受	特許	手続補正書		不服2010-025659	特願2010-515778	2011/09/27	---
							接受	特許	手続補正書		不服2010-026288	特願2010-515775	2011/09/27	---
							接受	特許	意見書		不服2010-025659	特願2010-515778	2011/08/12	---
							接受	特許	手続補正書		不服2010-025659	特願2010-515778	2011/08/12	---
							接受	特許	意見書		不服2010-026288	特願2010-515775	2011/07/15	---
							接受	特許	手続補正書		不服2010-026288	特願2010-515775	2011/07/15	---
							接受	特許	手続補正書			特願2010-515675	2011/06/02	---
							接受	特許	出願審査請求書			特願2010-515675	2011/06/02	---

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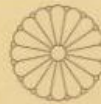
発送書類の受取 表示 印刷 ヘルプ

出願	発送	請求	閲覧	補助	国際出願	証明書	四法	書類名	整理番号	事件番号	応答期間	発送番号	受信時刻
							● 特許	特許査定	P2491J1	2010-260142		057995	12:15:59
							●	発送目録					12:16:01

識別番号395022203

- 2012年01月31日
- 2011年12月05日
- 2011年10月24日
- 2011年09月27日
- 2011年07月13日
- 2011年06月15日
- 2011年05月17日
- 2011年05月09日
- 2011年03月17日
- 2011年02月14日
- 2011年02月08日
- 2010年12月22日
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- 2010年10月19日
- 2010年08月24日
- 2010年08月23日
- 2010年08月11日
- 2010年07月06日

# JPO, Japan Patent Office



特許証  
(CERTIFICATE OF PATENT)

特許第4855537号  
(PATENT NUMBER)

発明の名称  
(TITLE OF THE INVENTION)

データベース並行編集方式

特許権者  
(PATENTEE)

東京都小金井市東町 丁目 番 号  
株式会社アテナテレコムラボ

発明者  
(INVENTOR)

上村 邦夫

出願番号  
(APPLICATION NUMBER)

特願2010-515775

出願日  
(FILING DATE)

平成21年 6月 3日(June 3, 2009)

登録日  
(REGISTRATION DATE)

平成23年11月 4日(November 4, 2011)

この発明は、特許するものと確定し、特許原簿に登録されたことを証する。  
(THIS IS TO CERTIFY THAT THE PATENT IS REGISTERED ON THE REGISTER OF THE JAPAN PATENT OFFICE.)

平成23年11月 4日(November 4, 2011)

特許庁長官  
(COMMISSIONER, JAPAN PATENT OFFICE)

岩井良行



## Patents granted easily

Very complicated structure. ...

No one needs it.

⇒ It is enough, if your purpose is to display a patent certificate at your office.

**VS**

## Patents useful for business (Examples 1 and 2)

Invention of simple structure.

It is convenient, though no one has shown it.

Many people want to use it.

(Note)

It is difficult to be granted as patent, if everybody has thought of it.

⇒ **Efforts for getting patents.**

**Design of patents that will not be broken easily.**

## Patent strategy

(Traditional)

Name	Development Software
Brown	Embarcadero
Ballmer	Visual Studio
Fujii	Embarcadero
Mr. X	Eclipse

Click

Name	Development Software
Brown	AAA
Ballmer	Visual Studio
Fujii	Embarcadero
Mr. X	Eclipse

Name	Development Software
Brown	Embarcadero
Ballmer	Eclipse
Fujii	. . .
Mr. X	. . .

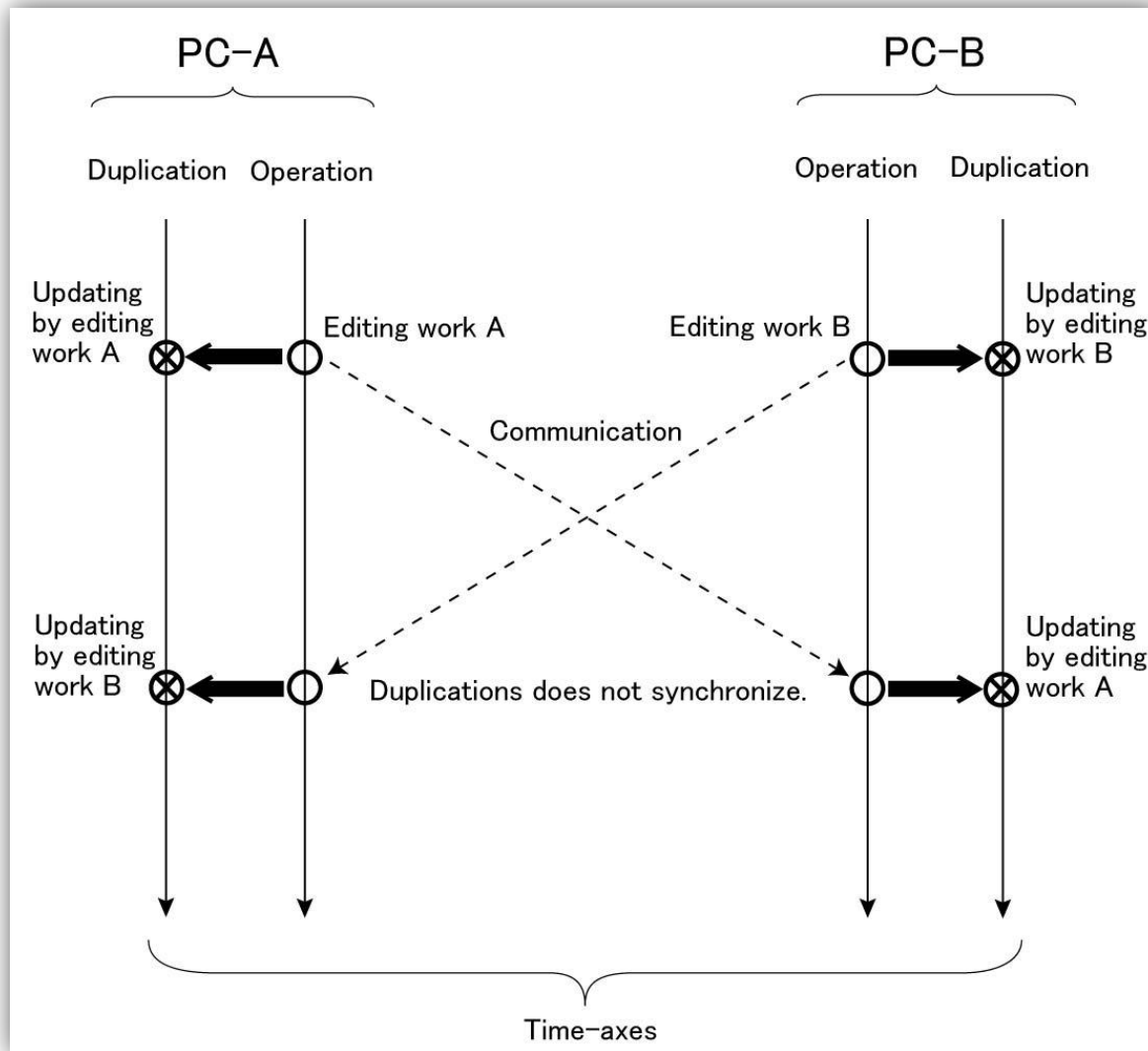
Click

PCT/  
JP08/  
1566

Name	Development Software
Ballmer	AAA
Brown	Visual Studio
Fujii	Embarcadero
Mr. X	Eclipse

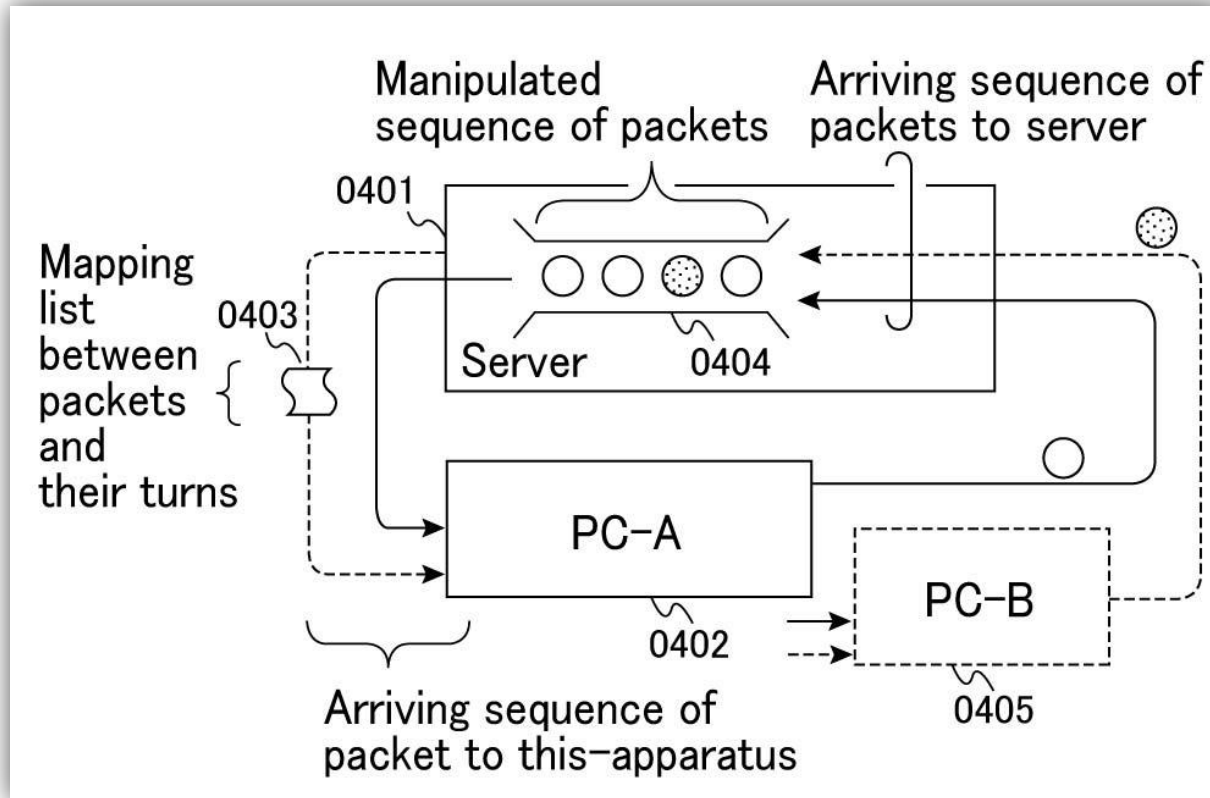
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# Example 1 : Table of slot machine type



## Problems to be solved by example 2

# Mechanism for synchronization of duplications edited by parallel editing work



Japan: 4 patents granted, 2 to be examined.  
US: 3 under examination.

## Example 2 : Synchronization of duplications edited by parallel editing work (PCT/JP2009/002491)

## Amendment Arguments/Remarks Made in an Amendment

1.	Understanding of KEMME ( * )	... P.1
1.1	Serializability	... P.1
1.2	Communication realized by multicast	... P.2
1.3	Order of messages	... P.2
1.4	SER, database replication protocol	... P.4
1.5	SI, database replication protocol	... P.4
2.	Features of amended claims compared with KEMME	... P.5
3.	Detailed explanation of amended claims	... P.9
4.	Answers to the office actin	... P.13
	Appendix A: KEMME ( * )	... P.18
	Appendix B: BERNSTEIN ( * * )	... P.29
	Appendix C: Isis by BIRMAN	... P.31
	Appendix D: Transis by DOLEV	... P.39
	Appendix E: Totem by MOSER	... P.41
	Appendix F: Horus by RENESSE	... P.43

( \* ) Kemme et al., A New Approach to Developing and Implementing Eager Database Replication Protocol, Swiss Federal Institute of Technology, ACM Transactions on Database Systems, Vol.25, No.3, September 2000, pages 333-379.

( \* \* ) BERNSTEIN, P. A., HADZILACOS, V., AND GOODMAN, N. 1987.  
Concurrency Control and Recovery in Database Systems. Addison-Wesley Publ. Co., Inc., Reading, MA.

# Efforts for getting patents. :

## Response to USPTO

## Specification ( ex. cars )

**Claim 1** (cart + wheel)

**Claim 2**  
(cart + one wheel)

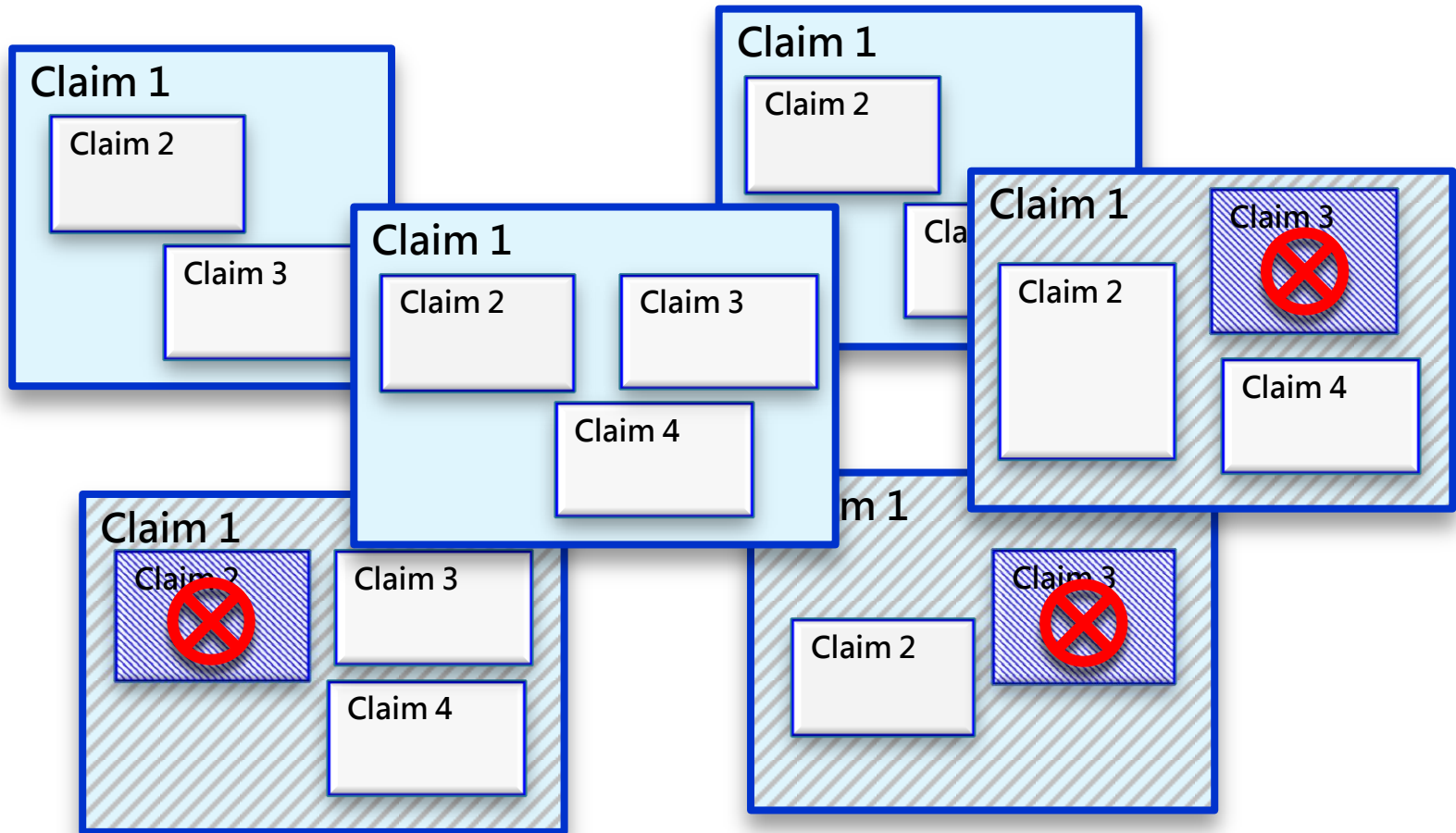
**Claim 3**  
(cart + two wheels)

**Claim 4**  
(cart + three wheels)



Usual structure of patent





 Existing technical literature

**Design of patents that will not be broken easily**  
 (Conceptual structure of example 2)

## **(Plan A) Commercialization of software**

- Upgrading of prototypes
- If you need information,  
please contact [ed22@atele.com](mailto:ed22@atele.com)

(Note)

Restricted is information that may be provided before announcement of the commercialized software.

**And / or**

**(Plan B) Permission of the patents for your software products.**

**And / or**

**(Plan C) Joint development of software components based on the patents**

# **Business deployments**

Wise strategy is necessary, if open source based softwares are used.

- ◆ GCC
- ◆ JDK
- ◆ Eclipse

Commercial softwares for developments.

- ◆ Visual Studio
- ◆ Embarcadero ⇐ Multi-platform

Environments for software developments.