# 创新性描述比对分析报告

### 对比分析结论:

创新性结论: 无创新性 新爾性結论: 无新爾性 创造性结论: 无统

该创新性描述共包含2个技术特征, 其中技术特征 1、2 (共2个)被对比专利揭示, 技术特征 0 (共0个)未被对比专利揭示。

语能能性描述 100.00% %给挤木特征被对比专利揭示,且揭示这些技术特征的最少专利能力 1,其中每级专利揭示比别分别为: CN101030982A[100.00%),CN101673173A[100.00%),CN101488030A(100.00%),CN10312547A(100.00%),CN10312547B(100.00%),因此判断该创新性描述的新维性为: 无创新性。

CATUSISSAN(ULUUM), CATUSISSAN(ULUUM), 因此例如他自由性能多例如此为一定回答上 连續所任期間,100,000米%的技术特征可比卡利德对比中利的技术特征倒成要数率,且与这些技术特征制成要数率的量少有模数力1,其中每個专利能似要数率的比例分别为:CATIG1030982A(100,00%), CATIG1673173A(100,00%), CATUG148600A(100,00%), CATUGISTSFAT(100,00%), CMUGISTSFAT(100,00%), 则此列斯·波德斯任指述的自己性力于一定例。 该德斯任斯述的每个技术特征被对比专利展示的具体情况如下:

| 创新性定论结论        | 新颖性 | 创造性  |
|----------------|-----|------|
| 无创新性           | 无   | 1    |
| 70 88 8811 111 | 有   | 无(弱) |
| 有创新性           | 有   | 有(中) |
| 79 603013      | 有   | 有(强) |

| 技术特征<br>被揭示比例 a | 覆盖被揭示技术<br>特征的最少专利数 | 新颖性结论 |
|-----------------|---------------------|-------|
| 0 ≤ α < 100%    | /                   | 有     |
| α = 100%        | > 3                 | 有     |
| a = 100%        | ≤ 3                 | 无     |

| 相似技术<br>相似比例β              | 覆盖相似技术<br>特征的最少专利数 | 创造性结论 |
|----------------------------|--------------------|-------|
| $0\% \leq \beta \leq 30\%$ | /                  | 有(强)  |
| 30% < B < 40%              | >1                 | 有(强)  |
| 30% C p 5 40%              | 1                  | 有(中)  |
| 40% < β ≤ 70%              | 1                  | 有(中)  |
| 70% < β ≤ 100%             | /                  | 无(號)  |

### 专利CN101030982A与该创新性描述的比对报告

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|----|---|---------|----|---|--|--|
| 序号 | 专利CN101030982A  | 技术特征相似度 | 序号 | 该创新性描述  |  |  |
|    | 摘要  |         |    |   |  |  |
| 1  | 本发明提供一种自动调整显示屏内容显示方向的装置,包括:癌应和输出三维空间方向旋转矢量数据的姿态传感单元、分析姿态传感器上传的旋转矢量数据<br>并判断手持移动设备是否旋转以及旋转角度的数据分析单元及根据分析结果调整手持移动设备显示屏内容显示方向的显示调整单元 | 68.7%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 2  | 本发明还提供一种自动调整显示屏内容显示方向的方法,包括以下步骤: A.感应三维空间方向旋转矢量数据   | 60.8%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 3  | B.根据所述旋转矢量数据分析手持移动设备是否旋转以及旋转的角度   |         |    |   |  |  |
| 4  | C.根据分析结果调整显示屏显示内容的显示方向  | 74.7%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 5  | 本发明使得用户在三维空间任意旋转手机时能直接看到适应方向的屏幕显示,手持移动设备也更加人性化  | 54.2%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
|    | 权利要求  |         |    |   |  |  |
| 6  | 1.一种自动调整显示屏内容显示方向的装置,包括显示屏,其特征在于: 还包括: 姿态传感单元,用于感应和输出三维空间方向旋转矢量数据,所述旋转矢量<br>数据包括:旋转三维位置、旋转角速度以及旋转角加速度                             | 63.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 7  | 数据分析单元,用于分析姿态传感器上传的旋转矢量数据,判断手持移动设备是否旋转以及旋转的角度   | 53.7%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 8  | 以及显示调整单元,用于根据分析结果调整手持移动设备显示屏内容的显示方向   | 56.9%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 9  | 2.根据权利要求1所述的装置,其特征在于: 还包括阈值设置单元,用于设置调整显示屏内容显示方向的旋转角度阈值  | 59.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 10 | 3.根据权利要求1所述的装置,其特征在于: 所述姿态传感单元是微硅加速度传感器   |         |    |   |  |  |
| 11 | 4.根据权利要求1所述的装置。其特征在于:还包括报警单元,用于当手持移动设备任意三维空间角度旋转过快,接收所述数据分析单元通知发出旋转过快的<br>警告  | 57.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 12 | 5.根据权利要求1所述的装置,其特征在于: 所述显示屏为圆形显示屏   | 54.9%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 13 | 6.一种自动调整显示屏内容显示方向的方法,包括以下步骤:A.感应三维空间方向旋转矢量数据,所述旋转矢量数据包括:旋转三维位置、旋转角速度以及旋转角加速度  | 63.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 14 | B.根据所述旋转矢量数据分析手持移动设备是否旋转以及旋转的角度   |         |    |   |  |  |
| 15 | 以及C.根据分析结果调整显示屏内容的显示方向  | 69.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 16 | 7.根据权利要求8所述的方法,其特征在于:在所述步骤A之前还包括用户手动设置调整显示屏内容显示方向的旋转角度阈值的步骤   | 63.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 17 | 8.根据权利要求7所述的方法,其特征在于:如果所述显示屏为图形显示屏,则所述步骤C可根据分析结果实时调整显示屏内容的显示方向  | 63.8%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 18 | 9.根据权利要求8所述的方法,其特征在于: 如果所述步骤B中分析在显示屏水平面内旋转时,则所述步骤C中根据旋转角度反向旋转相同角度调整显示屏内容<br>显示方向  | 59.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 19 | 如果所述步骤B中分析在与显示屏垂直方向旋转每超过180度,则所述步骤C中调整显示屏的显示内容显示方向每次旋转180度  | 58.8%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 20 | 10.根据权利要求6所述的方法,其特征在于:如果所述步骤B中分析出手持移动设备任意三维空间角度旋转过快,则还执行步骤:D.发出旋转过快的警告  |         |    |   |  |  |

### 专利CN103512547B与该创新性描述的比对报告

|    | 专机6/17/035125476号 该创制性抽处的比对报告  |         |    |   |  |  |
|----|--|---------|----|---|--|--|
| 序号 | 专利CN103512547B   | 技术特征相似度 | 序号 | 该创新性描述  |  |  |
|    | 拘要   |         |    |   |  |  |
| 1  | 一种实现视力保护的方法,用于包括一显示单元,一电流侦测单元,一图像采集单元及微处理器的电子装置,该方法包括以下步骤:判断所述显示单元是否<br>处于开启状态   | 60.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 2  | 当所述显示单元处于开启状态时,采集所述显示单元前方的图像   | 63.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 3  | 判新所采集到的图像中是否有人眼的图像   |         |    |   |  |  |
| 4  | 当判断所采集到的图像中有人眼的图像时,计算所采集到的图像中用户双眼的瞳距   |         |    |   |  |  |
| 5  | 将所计算出的双眼瞳距与预设的距离相比以判断用户与电子装置之间的距离是否在安全距离范围内  |         |    |   |  |  |
| 6  | 及当用户与电子装置之间的距离不在安全距离范围内时,发送一控制命令以控制电子装置向用户发出提醒信息   | 58.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 7  | 本发明还提供了一种应用该方法的电子装置  | 57.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
|    | 权利要求   |         |    |   |  |  |
| 8  | 1. 一种母子装置、包括一里示等元、一用于感激高向所注显示等元的电流值的电流侦测等元、一用于实集所适显示等元前方的图像的图像采集等元、一用于<br>邮件记号子装置的位置是表皮生变化的滤波模仿等等元、及废处建筑、其特征在于、所述微处理器包括:一用于根据所法电流侦测等元所感激的通过所述<br>显示率元的电话程序所形式显示师 足术显示于正式达到的原始数据                  | 65.8%   | 1  | 一种调整显示内容的方法包括:接效用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 9  | 一用于在所述显示单元处于开启状态时,判断所述图像采集单元所采集到的图像中是 否存在人眼图像的图像识别模块   | 59.1%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 10 | 一用于在所述采集到的图像中存在人眼图像时,获取所述图像采集单元所采集到的图 像中用户双眼的瞳距的瞳距获取模块   | 57.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 11 | 一提醒模块  | 51.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 12 | 其中,所述列斯模块还用于根据所述蟾跑获取模块所获取的用户双眼瞻距列斯用户与 电子装置之间的距离是否在安全距离范围内,并在用户与电子装置之间的距离不在安全距离范围内时,向所述接醒模块发送一控制命令  | 62.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 13 | 所述提醒模块则在接收到所述控制命令时,控制向用户发出提醒信息   | 64.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 14 | 及 所述機处理甚还包括一位移计算与判断模块。用于在所述知道废传感单元思测到所述 电子装置的位置发生了改变时计算所述电子装置位置变化的位移大<br>小,并将统统移与一模 经价格阻比以判断例产与标述电子装置之间度服务差及发生了变化。当所还电子装置位置 变化的位移大于预设的位移时,所述也移计<br>期与列闸模块利所经电子装置与用气间的 复观发生了交流。 使发进一些数据令的标准电视或排除工 | 71.4%   | 1  | 一种调整显示内容的方法包括:接效用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 15 | 2. 如权利要求1所述的电子装置,其特征在于,当所述雜距获取模块所获取的用户双 眼雜距大于一预设距离时,所述判断模块判断用户与所述电子装置之间的<br>距离不在安全距 萬范围内   | 54.4%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 16 | 3. 如权利要求1所述的电子装置,其特征在于,当所述电流侦测单元感测到通过所述显示单元的电流值大于预设电流值时,所述判断模块判断所述显示单元处于开启状态,便发送一信号绘所述图像果集模块   | 69.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 17 | 4. 如权利要求1所述的电子装置,其特征在于,还包括扬声器、设置于显示单元上的指示灯,所述提醒模块在接收到所述控制命令时,控制所述扬声器发出报告声音或指示灯闪烁   | 62.4%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 18 | 5. 如权利要求1至4任意一项所述的电子装置,其特征在于,所述图像采集单元为设置 于与所述显示单元同一面的摄像头   | 57.2%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 19 | 6 - 种实现视力保护的方法,用于包括一显示单元,一电流侦测单元,一图像采集单 元,一加速度传感单元及微处理器的电子装置,该方法包括以下步骤:<br>列斯所述显示单元是否处于开启状态  | 60.8%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 20 | 当所述显示单元处于开启状态时,采集所述显示单元前方的图像   | 63.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 21 | 判新所采集到的图像中是否有人跟的图像   |         |    |   |  |  |
| 22 | 当判断出所采集到的图像中有人跟图像时,计算所采集到的图像中用户双眼的瞳距   |         |    |   |  |  |
| 23 | 将所计算出的双眼瞳距与预设的距离相比较以判断用户与电子装置之间的距离是否 在安全距离范围内  |         |    |   |  |  |
| 24 | 当用户与电子装置之间的距离不在安全距离范围内时,发送一控制命令以控制电子装 置向用户发出提醒信息   | 60.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 25 | 及感测电子装置位置是否发生了改变,当感测到电子装置的位置发生了改变之后,计算 所述电子装置位置变化位移的大小,当所述电子装置位置变化位移大于一预设位移时,返 回到步骤"判断所述显示单元是否处于开启状态"  | 67.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 26 | 7. 如权利要求8所述的方法,其特征在于,所述步骤"判断所述显示单元是否处于开启 状态"包括: 感测所述显示单元的电流值   | 58.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 27 | 及 将该电流值与预设的电流值相比较以判断所述显示单元的是否处于开启状态  | 57.3%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 28 | <ol> <li>如权利要求e所送的方法,其特征在于、当所计算出的双眼瞳距大于预设的距离时、判断用户与电子装置之间的距离不在安全距离范围内</li> </ol>   | 60.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |

## 专利CN101673173A与该创新性描述的比对报告

| 序号 | 专利CN101673173A  | 技术特征相似度 | 序号 | 读创新性描述  |  |  |
|----|---|---------|----|---|--|--|
|    | 摘要  |         |    |   |  |  |
| 1  | 本发明近用于移动通信技术领域,提供了一种显示界面的调节装置、方法及移动终端,所述装置包括:摄像头,用于逐帧扫描、跳踪每一帧图像上的用户头<br>部或者眼睛的位置信息,获取所述用户头部或者眼睛的位移信息  | 71.1%   | 1  | 一种调整显示内容的方法包括:接效用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 2  | 界圖移动控制模块,用于根据接收到的所注摄像头顶取的用户头部或者眼睛的位移信息控制移动终端的界面发生相同的位移变化,并当用户头部或者眼睛从<br>摄像头捕捉范围内消失时,控制移动终端的界面停止移动   | 62.1%   | 1  | <ul><li>一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令。所述重力感应角度调整指令使重力感应角度改变指定角度</li></ul> |  |  |
| 3  | 在本发洞中,界面移动控制模块根据接收到的摄像头获取的用户头部或者眼睛的位移信息控制移动终端的界面发生相同的位移变化,使用户的眼睛和移动终端界面保持不变的位置,从而使移动终端的界面没有晃动的感觉。降低了用户的视觉疲劳                                       | 58.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
|    | 权利要求  |         |    |   |  |  |
| 4  | <ol> <li>一种显示界面的调节装置。其特征在于、所述装置包括:据像头、用于逐帧扫描、跟踪每一帧图像上的用户头部或者眼睛的位置信息。获取所述用户头部或者眼睛的位移信息</li> </ol>  | 67.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 5  | 界盃移动控制模块,用于根据接收到的所述摄像头获取的用户头部或者眼睛的位移信息控制移动终端的界面发生相同的位移变化,并当用户头部或者眼睛从<br>摄像头捕捉范围内消失时,控制移动终端的界面停止移动   | 62.1%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 6  | 2、如权利要求所述的装置,其特征在于,所述装置还包括:振动传感器,用于感应移动终端的振动,当所述移动终端振动的频率和幅度在预先设定的范围时,启动所述摄像头和所述界面移动控制模块工作  | 58.4%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 7  | 3、一种移动终端,其特征在于,所述移动终端包括《又利要求1或2所述的显示界面的调节装置   | 54.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 8  | 4、一种显示界面的调节方法,其特征在于,所述方法包括下述步機:据像头跟踪每一帧图像上的用户头部或者眼睛的位置信息,获取所述用户头部或者眼睛的位移信息  | 61.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度                           |  |  |
| 9  | 所述摄像头将所述获取的用户头部或客眼睛的位移信息传送至界面移动控制模块   | 63.7%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度                           |  |  |
| 10 | 所述界面移动控制模块根据所述用户头部或者眼睛的位移信息控制移动终端的界面发生相同的位移变化,并当用户头部或者眼睛从摄像头捕捉范围内消失<br>时,控制移动终端的界面停止移动  | 61.2%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 11 | 5. 如权利要求4所述约万法。其特征在于、在所述摄像头拟指每一根图像上约用户头部或者根据的位置信息。程数所述用户头部或者根据的位移信息的步骤之前,所述方法还抵挤了这步骤。振动内部摄影应移动移漏的振动。当所达移动转漏动的频率和偏数在预先设定的范围时,启动所注册像头和所述界涵移动控制模块工作。 | 68.7%   | 1  | 一种调整显示内容的方法包括:接役用户输入的重力感应角度调整指令。所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |
| 12 | 6、如权利要求4所述约方法,其特征在于,在所述摄像头跟踪每一帧图像上的用户头部或者眼睛的位置信息,获取所述用户头部或者眼睛的位移信息的步骤<br>之前,所述方法还包括下述步骤: 手动启动所述摄像头和所述界面移动控制模块工作                                   | 63.2%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度                   |  |  |

# 专利CN103512547A与该创新性描述的比对报告

|    | 会かりの1009 15041人力 次 603利 1年3世だけがられた   |         |    |   |  |  |
|----|--|---------|----|---|--|--|
| 序号 | 专利CN103612547A   | 技术特征相似度 | 序号 | 该创新性描述  |  |  |
|    | 摘要   |         |    |   |  |  |
| 1  | 一种实现视力保护的方法,用于包括一显示单元,一电流侦测单元,一图像采集单元及微处理器的电子装置,该方法包括以下步骤: 判断所述显示单元是否<br>处于开启状态  | 60.6%   | 1  | 一种调整显示内容的方法包括:接效用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 2  | 当所述显示单元处于开启状态时,采集所述显示单元前方的图像   | 63.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 3  | 判斯所采集到的图像中是否有人眼的图像   |         |    |   |  |  |
| 4  | 当判断所采集到的图像中有人眼的图像时,计算所采集到的图像中用户双眼的瞳距   |         |    |   |  |  |
| 5  | 将所计算出的双眼瞳距与预设的距离相比以判断用户与电子装置之间的距离是否在安全距离范围内  |         |    |   |  |  |
| 6  | 及当用户与电子装置之间的距离不在安全距离范围内时,发送一控制命令以控制电子装置向用户发出提醒信息   | 58.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 7  | 本发明还提供了一种应用该方法的电子装置  | 57.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
|    | 权利要求   |         |    |   |  |  |
| 8  | 1.一种电子装置,包括一显示单元,一用于感激流向所注显示单元的电流值的电流侦测单元,一用于采集所述显示单元前方的图像的图像采集单元,及微处理器,其特征在于,所述微处理器包括一用于根据所述电流侦测单元所感测到通过所述显示单元的电流值判断所述显示单元是否处于开启状态的判断模块   | 62.8%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 9  | 一用于在所述显示单元处于开启状态时,判断所述图像采集单元所采集到的图像中是否存在人跟图像的图像识别模块  | 59.1%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 10 | —用于在所述采集到的图像中存在人跟图像时,获取所述图像采集单元所采集到的图像中用户双眼的瞳距的瞳距获取模块  | 57.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 11 | 及一提醒模块   | 51.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 12 | 其中,所述列斯模块还用于根据所述雜距铁取模块所获取的用户双眼雜距列斯用户与电子装置之间的距离是否在安全距离范围内,并在用户与电子装置之间<br>的距离不在安全距离范围内时,向所述提醒模块发送一控制命令   | 62.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 13 | 所述提醒模块则在接收到所述控制命令时,控制向用户发出提醒信息   | 64.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 14 | 2.如权利要求1所述的电子装置,其特征在于,当所述罐距获取模块所获取的用户双眼罐距大于一预设距离时,所述判断模块判断用户与所述电子装置之间的<br>距离不在安全距离范围内  | 54.4%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 15 | 3.如权利要卖1所述的电子装置,其特征在于,当所述电流侦测单元感测到通过所述显示单元的电流值大于预设电流值时,所述判断模块判断所述显示单元处于开启状态,便发送一信号给所述图像来集模块  | 69.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 16 | 4.如权利要求1所述的电子装置,其特征在于,还包括扬声器、设置于显示单元上的指示灯,所述提醒模块在接收到所述控制命令时,控制所述杨声器发出报<br>警声音或指示灯闪烁  | 62.4%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 17 | 5.如权利要求1至4任意一项所述的电子装置,其特征在于,所述图像采集单元为设置于与所述显示单元同一面的摄像头   | 57.2%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 18 | 6.以何则被求约经约电子将置,其特征在于,但中子是混合经一加湿度构造等。用于维制的指出于非营的的国最后发生了完化,经理处理起往经长一位针错与影响能从,并于他们选进程的中无限的的信息中发展的信息生产与企业针解的现在分词更变化的原义外,并非在经验中一场设计<br>特别比划时间户与外线电子接近之间度调合者发生了发化。当时从电子接近官量化价均移大于预设的位移材,所述包括计算与判断模块的新价法电子<br>接受用户之间的高度量生了农业,使起了一些勤命令的标准电线的解决 | 70.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角衰竭整路令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 19 | 7.一种实现现力保护的方法,用于包括一显示单元,一电流侦测单元,一图像采集单元及微处理器的电子装置,该方法包括以下步骤:判断所述显示单元是否<br>处于开启状态   | 60.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 20 | 当所述显示单元处于开启状态时,采集所述显示单元前方的图像   | 63.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双银方向之间的夹角小于预设角度         |  |  |
| 21 | 判所所采集到的图像中是否有人眼的图像   |         |    |   |  |  |
| 22 | 当判断出所采集到的图像中有人眼图像时,计算所采集到的图像中用户双眼的瞳距   |         |    |   |  |  |
| 23 | 将所计算出的双眼瞳距与预设的距离相比较以判断用户与电子装置之间的距离是否在安全距离范围内   |         |    |   |  |  |
| 24 | 及当用户与电子装置之间的距离不在安全距离范围内时,发送一控制命令以控制电子装置向用户发出提醒信息   | 58.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 25 | 8.如权利要求7所述的方法,其特征在于,所述步骤"判断所述显示单元是否处于开启状态"包括:感测所述显示单元的电流值  | 58.1%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双银方向之间的夹角小于预设角度         |  |  |
| 26 | 及将该电流值与预设的电流值相比较以判断所述显示单元的是否处于开启状态   | 57.3%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双银方向之间的夹角小于预设角度         |  |  |
| 27 | 9.如权利要求7所述的方法,其特征在于,当所计算出的双眼瞳距大于预设的距离时,判断用户与电子装置之间的距离不在安全距离范围内   | 60.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双银方向之间的夹角小于预设角度         |  |  |
| 28 | 10.如权利要求7所述的方法,其特征在于,感测电子装置位置是否发生了改变,当感测到电子装置的位置发生了改变之后,计算所述电子装置位置变化位移<br>的大小,当所述电子装置位置变化位移大于一预设位移时,返回到步骤"判断所述显示单元是否处于开启状态"  | 66.1%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |

### 专利CN101488030A与该创新性描述的比对报告

|    | 专利GNT01466030A与 该创制性抽处的比对报告  |         |    |   |  |  |
|----|--|---------|----|---|--|--|
| 序号 | 专利CN101488030A   | 技术特征相似度 | 序号 | 该创新性描述  |  |  |
|    | 摘要   |         |    |   |  |  |
| 1  | 本发明适用于显示屏技术领域,提供了一种显示屏调整装置以及方法   | 55.9%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 2  | 该调整装置包括: 位置检测器,用于检测用户的位置   | 65.8%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 3  | 调整量计算器,用于根据用户的位置计算所述显示屏高度和或角度的调整量  | 58.6%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 4  | 显示屏调整器,用于根据所述调整量对显示屏进行调整   | 67.7%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 5  | 该调整方法包括以下步骤: (A)位置检测器检测用户的位置   | 68.4%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 6  | (8)调整量计算器根据用户的位置计算所述显示屏高度和/或角度的调整量   |         |    |   |  |  |
| 7  | (C)显示屏调整器根据所述调整量来对所述显示屏进行调整  | 67.2%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 8  | 本发明提供的技术方案能自动检测用户所处的位置,根据用户的位置自动调整显示屏的高度和/或角度以适应用户的观看方位,使用户看到电视机的最佳显示<br>效果,而不需要用户自行调整 | 60.1%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
|    | 权利要求   |         |    |   |  |  |
| 9  | 1. 一种显示屏调整装置,其特征是该调整装置包括:位置检测器,用于检测用户的位置   | 60.5%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 10 | 调整量计算器,用于根据用户的位置计算所述显示屏高度和/或角度的调整量   | 58.6%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 11 | 显示屏调整器,用于根据所述调整量对显示屏进行调整   | 67.7%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 12 | 2. 根据权利要求1所述的调整装置,其特征是所述位置检测器包括: 图像获取器,用于获取用户图像  | 58.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 13 | 脸部检测器,用于从用户图像中检测验部图像,并提取脸部特征   | 58.4%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 14 | 位置计算器,用于计算脸部图像在用户图像中的位置以及脸部图像中脸部 特征之间的距离,并计算出用户的位置                                     |         |    |   |  |  |
| 15 | 3. 根据权利要求1所述的调整装置,其特征是所述显示屏调整器包括: 控制器,用于才良据所述调整量驱动动力装置                                 | 58.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 16 | 动力装置,用于向传动装置提供动力   | 55.7%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 17 | 传动装置,它与动力装置相耦合,用于对显示屏进行调整  | 56.4%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 18 | 4. 根据权利要求3所述的调整装置,其特征是所述显示屏调整器还包括: 调整量传感器,用于测量显示屏调整的高度值和/或角度值,并将结果发送给控制器               | 58.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 19 | 5. 根据权利要求1所述的调整装置,其特征是所述位置检测器包括: 红外光发射器,用于产生红外光井分别对用户所处的空间的X方向, Y方向, Z方向进4于<br>扫描      |         |    |   |  |  |
| 20 | 时间基准信号发射器,用于产生时间基准信号,向被扫描空间发射X、Y, Z时间基准信号  |         |    |   |  |  |
| 21 | 位置传感器,用于测量红外光发射器在X,Y,Z方向的扫描坐标  | 55.1%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 22 | 红外光接收器,用于接收红外光发射器发出的红外扫描信号   | 56.8%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 23 | 时间基准信号接收器,用于接收X、Y,Z时间基准信号  | 67.5%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 24 | 存储器,用于存储扫描时间与用户位置的对应关系   | 58.6%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 25 | 控制器,用于计算时间基准信号与红外扫描信号之间的时间差,得出用户的位置  | 56.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 26 | 8. —种显示屏调整方法,其特征是该方法包括以下步骤: (A) 位置检测器检测用户的位置   | 59.0%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 27 | (B) 调整量计算器根据用户的位置计算所述显示屏高度和/或角度的调整量  |         |    |   |  |  |
| 28 | (C)显示屏调整器一艮据所述调整量来对所述显示屏进行调整   | 65.4%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的夹角小于预设角度         |  |  |
| 29 | 7. 根据权利要求6所述的调整方法,其特征是,步骤(A)具体包括: 图像获取器获取用户图像  | 57.7%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 30 | 脸部检测器从用户图像中检测脸部图像,并提取脸部特征  | 60.0%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 31 | 位置计算器计算脸部图像在用户图像中的位置以及脸部图像中脸部特征之 间的距离,并计算出用户的位置  |         |    |   |  |  |
| 32 | 8. 根据权利要求7所述的调整方法,其特征是在步骤(A)之前事先建立用 户脸部与图像获取器的距离和脸部图像中脸部特征之间的距离的对应关系                   | 58.3%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 33 | 9. 根据权利要求8所送的调整方法,其特征是在步骤(A),位置检测器利 用上述对应关系,根据验部图像在用户图像中的位置和脸部图像中脸部特征之 间的<br>距离计算用户的位置 | 56.9%   | 1  | 一种调整显示内容的方法包括:接收用户输入的重力感应角度调整指令,所述重力感应角度调整指令使重力感应角度改变指定角度 |  |  |
| 34 | 10. 根据权利要求8所述的调整方法,其特征是在步骤 (C),显示屏调整 器依次调整显示屏的高度、角度                                    | 61.8%   | 2  | 根据调整后的重力感应角度显示内容,使得所述内容的显示方向和所述用户的双眼方向之间的央角小于预设角度         |  |  |

# 专利US20110292009A1与该创新性描述的比对报告

|                      | 2,130020110   | 292009A1-0 汉创新社组 |     |        |
|----------------------|---|------------------|-----|--------|
| 序号                   | 专利US20110292009A1   | 技术特征相似度          | 序号  | 该创新性描述 |
| .,,                  | - 福要  | 201110 11111100  | .,, | WWW.   |
| 1                    | An electronic device includes a base, a display pivotably connecting to the base, a detecting unit, a processing unit, and a driving unit   |                  |     |        |
| 2                    | The detecting unit is for detecting a positional relationship between the display and a user in front of the display  |                  |     |        |
| 3                    | The processing unit is for generating an adjusting signal according to the positional relationship  |                  |     |        |
| 4                    |   |                  |     |        |
| *                    | The driving unit is for adjusting an opening angle defined between the display and the base according to the adjusting signal 权利要求  |                  |     |        |
|                      |   |                  |     |        |
| 5                    | An electronic device, comprising: a base  |                  |     |        |
| 6                    | a display pivotably connected to the base   |                  |     |        |
| 7                    | a detecting unit for detecting a positional relationship between the display and a user in front of the display   |                  |     |        |
| 8                    | a processing unit for generating an adjusting signal according to the positional relationship   |                  |     |        |
| 9                    | and a driving unit for adjusting an opening angle defined between the display and the base according to the adjusting signal  |                  |     |        |
| 10                   | a basea display pivotably connected to the base   |                  |     |        |
| 11                   | a basea detecting unit for detecting a positional relationship between the display and a user in front of the display   |                  |     |        |
| 12                   | a basea processing unit for generating an adjusting signal according to the positional relationship   |                  |     |        |
| 13                   | a base anda driving unit for adjusting an opening angle defined between the display and the base according to the adjusting signal  |                  |     |        |
| 14                   | The electronic device of claim 1, wherein the detecting unit is for automatically detecting whether a user is in front of the display, and further for generating   |                  |     |        |
|                      | the positional relationship between the display and the user if it is determined that the user is in front of the display   |                  |     |        |
| 15                   | The electronic device of claim 1, wherein the detecting unit generates a distance as the positional relationship when it is determined that the user is in  |                  |     |        |
|                      | front of the display, the distance is defined between the display and a face of the user  |                  |     |        |
| 16                   | The electronic device of claim 3, wherein the detecting unit comprises: a capturing unit for capturing an image with a predetermined field of view, and the image being located in front of the screen in that field of view  |                  |     |        |
| 17                   | a recognizing unit for judging whether a human exists within the image, and further for determining a face in the image if it is judged that a human exists in  |                  |     |        |
| 17                   | a recognizing unit for judging whether a numan exists within the image, and turther for determining a race in the image in it is judged that a numan exists in the image  |                  |     |        |
| 18                   | and a calculating unit for calculating an area of the face of the image, and further for generating the distance accordingly  |                  |     |        |
| 19                   | a capturing unit for capturing an image with a predetermined field of view, and the image being located in front of the screen in that field of view  |                  |     |        |
| 20                   | a capturing unit for capturing an image with a predetermined field of view, and the image being located in front of the screen in that field of view a recognizing unit for judging whether a human exists within the image, and further for determining a face in the image if it is judged that a human exists in |                  |     |        |
| 20                   | a recognizing unit for judging whether a numan exists within the image, and further for determining a race in the image in it is judged that a numan exists in the image  |                  |     |        |
| 21                   | anda calculating unit for calculating an area of the face of the image, and further for generating the distance accordingly   |                  |     |        |
| 22                   | The electronic device of claim 4  |                  |     |        |
| 23                   | wherein the calculating unit comprises proportional differences defined by different distances and different areas which are in proportion to the   |                  |     |        |
| 2.0                  | wherein the calculating unit comprises proportional differences defined by different distances and different areas which are in proportion to the corresponding distances   |                  |     |        |
| 24                   | the calculating unit is able to generate a distance by looking up the proportional differences according to an area   |                  |     |        |
| 25                   | The electronic device of claim 3, wherein the processing up to determines whether the distance is equal to a predetermined distance predetermined stored  |                  |     |        |
|                      | in the processing unit, and generates the adjusting signal if it is determined that the distance is not equal to the predetermined distance   |                  |     |        |
| 26                   | The electronic device of claim 1, wherein the detecting unit generates a distance as the positional relationship when it is determined that the user is in  |                  |     |        |
|                      | front of the display, the distance is defined between the display and a body of the user  |                  |     |        |
| 27                   | The electronic device of claim 7, wherein the detecting unit comprises: a capturing unit for capturing an image located in front of the screen in that field of   |                  |     |        |
|                      | view  |                  |     |        |
| 28                   | a recognizing unit for judging whether a human exists within the image  |                  |     |        |
| 29                   | and a calculating unit for calculating the distance between the display and the body of the user relative to the human face, if it is judged that a human   |                  |     |        |
|                      | exists within the image   |                  |     |        |
| 30                   | a capturing unit for capturing an image located in front of the screen in that field of view  |                  |     |        |
| 31                   | a recognizing unit for judging whether a human exists within the image  |                  |     |        |
| 32                   | anda calculating unit for calculating the distance between the display and the body of the user relative to the human face, if it is judged that a human  |                  |     |        |
|                      | exists within the image   |                  |     |        |
| 33                   | The electronic device of claim 7, wherein the processing unit determines whether the distance is equal to a predetermined distance predetermined stored   |                  |     |        |
|                      | in the processing unit, and generates the adjusting signal if it is determined that the distance is not equal to the predetermined distance   |                  |     |        |
| 34                   | The electronic device of claim 9, further comprising a storing unit for storing the predetermined distance  |                  |     |        |
| 35                   | The electronic device of claim 1, further comprising a hinge for pivotably connecting the display to the base, the driving unit comprising a motor coaxially  |                  |     |        |
| 36                   | set on the hinge, the motor for driving the hinge to rotate for adjusting the opening angle according to the adjusting signal   |                  |     |        |
| 30                   | An adjusting method for automatically adjusting an opening angle defined between a display and a base of an electronic device, the adjusting method comprising: detecting a positional relationship between the display and a user in front of the display  |                  |     |        |
| 37                   | generating an adjusting signal according to the positional relationship   |                  |     |        |
| 38                   | and adjusting the opening angle according to the adjusting signal   |                  |     |        |
| 39                   | detecting a positional relationship between the display and a user in front of the display  |                  |     |        |
| 40                   | generating an adjusting signal according to the positional relationship   |                  |     |        |
| 41                   |   |                  |     |        |
| 42                   | andadjusting the opening angle according to the adjusting signal  |                  |     |        |
| 42                   | The adjusting method of claim 12, further comprising: detecting whether a user is in front of the display   |                  |     |        |
| 44                   | generating the positional relationship between the display and the user if it is determined that the user is in front of the display  |                  |     |        |
|                      | detecting whether a user is in front of the display   |                  |     |        |
| 45                   | generating the positional relationship between the display and the user if it is determined that the user is in front of the display  |                  |     |        |
| 46                   | The adjusting method of claim 12, wherein the positional relationship is defined by a distance between the display and a face of the user, and the adjusting signal is generated according to the distance  |                  |     |        |
| 47                   |   |                  |     |        |
| 4/                   | The adjusting method of claim 14, further comprising: capturing an image with a predetermined field of view, and the image is located in front of the screen in that field of view  |                  |     |        |
| 48                   | judging whether a human exists within the image, and further for determining a face in the image if it is judged that a human exists within the image   |                  |     |        |
| 49                   | and calculating an area of the face of the image, and further for generating the distance between the display and the face of the user accordingly  |                  |     |        |
| 50                   | and calculating an area or the race of the image, and further for generating the distance between the display and the race of the user accordingly capturing an image with a predetermined field of view, and the image is located in front of the screen in that field of view                                     |                  |     |        |
| 51                   |   |                  |     |        |
|                      | judging whether a human exists within the image, and further for determining a face in the image if it is judged that a human exists within the image   |                  |     |        |
| 52                   | andcalculating an area of the face of the image, and further for generating the distance between the display and the face of the user accordingly   |                  |     |        |
| 53                   | The adjusting method of claim 15, wherein the distance is generated by looking up proportional differences according to the area, the proportional differences are defined by different distances and different areas in proportion to corresponding distances  |                  |     |        |
| 54                   | The adjusting method of claim 14, further comprising determining whether the distance is equal to a predetermined distance predetermined stored in the  |                  |     |        |
| 04                   | electronic device   |                  |     |        |
| 55                   | and generating the adjusting signal if it is determined that the distance is not equal to the predetermined distance  |                  |     |        |
| 56                   | determining whether the distance is equal to a predetermined distance predetermined stored in the electronic device   |                  |     |        |
| 57                   | andgenerating the adjusting signal if it is determined that the distance is not equal to the predetermined distance   |                  |     |        |
| 58                   |   |                  |     |        |
| 00                   | The adjusting method of claim 12, wherein the positional relationship is defined by a distance between the display and a body of the user, the adjusting signal is generated according to the distance  |                  |     |        |
| 59                   | The adjusting method of claim 18, further comprising: capturing an image located in front of the screen in that field of view   |                  |     |        |
| 60                   | judging whether a human exists within the image   |                  |     |        |
| 61                   | and calculating the distance between the display and the user relative to the human, if it is judged that a human exists within the image   |                  |     |        |
| 62                   | and calculating the distance between the display and the user relative to the numan, if it is judged that a numan exists within the image capturing an image located in front of the screen in that field of view   |                  |     |        |
|                      | judging whether a human exists within the image   |                  |     |        |
|                      |   |                  |     |        |
| 63                   |   |                  |     |        |
| 63<br>64             | andcalculating the distance between the display and the user relative to the human, if it is judged that a human exists within the image  |                  |     |        |
| 63                   | The adjusting method of claim 18, further comprising: determines whether the distance is equal to a predetermined distance predetermined stored in the  |                  |     |        |
| 63<br>64<br>65       | The adjusting method of claim 18, further comprising: determines whether the distance is equal to a predetermined distance predetermined stored in the electronic device  |                  |     |        |
| 63<br>64<br>65<br>66 | The signifing method of claim 18, further comprising; determines whether the distance is equal to a predetermined distance predetermined stored in the determined decrease decrease and presenting the adjusting signal if it is determined that the distance is not equal to the predetermined distance.           |                  |     |        |
| 63<br>64<br>65       | The adjusting method of claim 18, further comprising: determines whether the distance is equal to a predetermined distance predetermined stored in the electronic device  |                  |     |        |

## 专利US7164432B1与该创新性描述的比对报告

|     |   | 443261与该创新性抽处 |    |        |
|-----|---|---------------|----|--------|
| 序号  | 专利US7164432B1<br>摘更   | 技术特征相似度       | 序号 | 该创新性描述 |
| 1   | 摘要  The present invention can realize an information processing apparatus and a method therefor which can prevent a degraded visibility even if the posture of  |               |    |        |
|     | the information processing apparatus is changed in order to provide better portability or to prevent surrounding persons from snooping in the middle of a   |               |    |        |
|     | travel by displaying image information on a display surface and changing the display orientation by rotating the image information as required based on an angular component in a change of the posture of the display surface  |               |    |        |
| 2   | Also a medium causes an information processing apparatus to execute a program having a first step of displaying image information on a display surface  |               |    |        |
|     | Also a second step of detecting an angular component in a change in the posture of the display surface  |               |    |        |
|     | Also and a third step of changing the display orientation by rotating the image information based on the angular component  |               |    |        |
| 5   | Also so that a degraded visibility can be prevented even if the posture of the information processing apparatus is changed in order to provide better portability or to prevent surrounding persons from snooping in the middle of a travel   |               |    |        |
| 6   | Also thereby making it possible to readily use the information processing apparatus even in the middle of a travel  |               |    |        |
|     | 权利要求  |               |    |        |
|     | An information processing apparatus comprising: a display screen  |               |    |        |
|     | posture detecting means for detecting an angular component of a change of posture of the display screen   |               |    |        |
|     | means for setting a first mode in which all of a plurality of separate images configured to be displayed on the display screen are to be rotated a second mode in which a selected image of the plurality of separate images is to be rotated   |               |    |        |
|     | and a third mode in which none of the plurality of separate images is to be rotated   |               |    |        |
|     | means for selecting the selected image when the second mode is set  |               |    |        |
| 13  | and displaying direction control means for displaying the plurality of separate images on said display screen   |               |    |        |
| 14  | and for controlling a direction of display of the selected image by rotating the selected image according to the angular component of the change of posture of the display screen detected by the posture detecting means and not rotating at least one of the other of the plurality of images                       |               |    |        |
| 15  | said displaying direction control means controls the direction of display of said selected image by rotating said selected image when the angular   |               |    |        |
|     | component of the change of posture of the display screen detected by the posture detecting means remains unchanged for a predetermined time after the   |               |    |        |
| 16  | posture detecting means detects the angular component of the change of posture of the display screen a display screenposture detecting means for detecting an angular component of a change of posture of the display screen  |               |    |        |
| 17  | means for setting a first mode in which all of a plurality of separate images configured to be displayed on the display screen are to be rotated  |               |    |        |
| 18  | a second mode in which a selected image of the plurality of separate images is to be rotated  |               |    |        |
| 19  | and a third mode in which none of the plurality of separate images are to be rotated  |               |    |        |
| 20  | a display screenmeans for selecting the selected image when the second mode is set  |               |    |        |
| 21  | and displaying direction control means for displaying the plurality of separate images on said display screen and for controlling a direction of display of the selected image by rotating the selected image according to the angular component of the change of   |               |    |        |
|     | posture of the display screen detected by the posture detecting means and not rotating at least one of the other of the plurality of images   |               |    |        |
| 23  | said displaying direction control means controls the direction of display of said selected image by rotating said selected image when the angular component of the change of posture of the display screen detected by the posture detecting means remains unchanged for a predetermined time after the               |               |    |        |
|     | posture detecting means detects the angular component of the change of posture of the display screen  |               |    |        |
|     | The information processing apparatus according to claim 1   |               |    |        |
|     | wherein said displaying direction control means displays a plurality of windows as the plurality of images  |               |    |        |
|     | and controls the direction of display of a selected window from the plurality of windows according to the rotation of the display screen said displaying direction control means displays a plurality of windows as the plurality of images, and controls the direction of display of a selected                      |               |    |        |
|     | window from the plurality of windows according to the rotation of the display screen  |               |    |        |
| 28  | The information processing apparatus according to claim 1, wherein said displaying direction control means controls the direction of display of said selected image by rotating said selected image according to the rotation of the display screen beyond a predetermined range                                      |               |    |        |
| 29  | selected image by rotating said selected image according to the rotation of the display screen beyond a predetermined range<br>said displaying direction control means controls the direction of display of said selected image by rotating said selected image according to the rotation of                          |               |    |        |
|     | the display screen beyond a predetermined range   |               |    |        |
| 30  | The information processing apparatus according to claim 3, wherein said displaying direction control means controls the direction of display of said  |               |    |        |
| 31  | selected image by rotating said selected image when the display screen remains rotated beyond the predetermined range after a predetermined time said displaying direction control means controls the direction of display of said selected image by rotating said selected image when the display screen             |               |    |        |
|     | remains rotated beyond the predetermined range after a predetermined time   |               |    |        |
|     | An information processing apparatus comprising: a display screen  |               |    |        |
| 33  | posture detecting means for detecting an angular component of a change of posture of the display screen   |               |    |        |
| 34  | means for setting a first mode in which all of separate images configured to be displayed on the display screen are to be rotated, a second mode in which an image of the separate images is to be rotated, and a third mode in which none of the separate images are to be rotated                                   |               |    |        |
| 35  | means for selecting the image when the second mode is set   |               |    |        |
| 36  | and displaying direction control means for displaying the separate images on said display screen  |               |    |        |
| 37  | and for controlling a direction of display of the image by rotating said image according to the angular component of the change of posture of the display   |               |    |        |
| 38  | screen detected by the posture detecting means and not rotating at least one of the other images wherein said displaying direction control means controls the direction of display of said image by rotating said image according to the change of posture  |               |    |        |
| 00  | of the display screen beyond a predetermined range when the angular component of the change of posture of the display screen detected by the posture  |               |    |        |
|     | detecting means remains unchanged for a predetermined time after the posture detecting means detects the angular component of the change of posture of the display screen   |               |    |        |
| 39  | a display screenposture detecting means for detecting an angular component of a change of posture of the display screen   |               |    |        |
|     | a display screenmeans for setting a first mode in which all of separate images configured to be displayed on the display screen are to be rotated, a  |               |    |        |
|     | second mode in which an image of the separate images is to be rotated, and a third mode in which none of the separate images are to be rotated  |               |    |        |
|     | a display screenmeans for selecting the image when the second mode is set<br>anddisplaying direction control means for displaying the separate images on said display screen  |               |    |        |
|     | and for controlling a direction of display of the image by rotating said image according to the angular component of the change of posture of the display   |               |    |        |
|     | screen detected by the posture detecting means and not rotating at least one of the other images  |               |    |        |
| 44  | whereinsaid displaying direction control means controls the direction of display of said image by rotating said image according to the change of posture of   |               |    |        |
|     | the display screen beyond a predetermined range when the angular component of the change of posture of the display screen detected by the posture detecting means remains unchanged for a predetermined time after the posture detecting means detects the angular component of the change of posture                 |               |    |        |
|     | of the display screen   |               |    |        |
| 45  | The information processing apparatus according to claim 5, wherein said displaying direction control means controls the direction of display of said image by rotating said image when the display screen remains rotated beyond the predetermined range after a predetermined time                                   |               |    |        |
| 46  | said displaying direction control means controls the direction of display of said image by rotating said image when the display screen remains rotated  |               |    |        |
|     | beyond the predetermined range after a predetermined time   |               |    |        |
|     | An information processing method comprising: a display processing step of displaying a plurality of separate images on a display screen a detection processing step of detecting an angular component of a change of posture of the display screen  |               |    |        |
|     | a detection processing step or detecting an angular component or a change or posture or the display screen  a mode setting step of setting a first mode in which all of the plurality of separate images are to be rotated, a second mode in which a selected image of  |               |    |        |
|     | the plurality of separate images is to be rotated, and a third mode in which none of the plurality of separate images are to be rotated   |               |    |        |
| 50  | a selection processing step of selecting the selected image when the second mode is set   |               |    |        |
| 51  | and a displaying direction control processing step of controlling a direction of display of the selected image by rotating the selected image according to the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other  |               |    |        |
|     | of the plurality of images  |               |    |        |
| 52  | said displaying direction control processing step further controlling the direction of display of the selected image when the angular component of the change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection               |               |    |        |
|     | change or posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen  |               |    |        |
| 53  | a display processing step of displaying a plurality of separate images on a display screen  |               |    |        |
|     | a detection processing step of detecting an angular component of a change of posture of the display screen  |               |    |        |
| 55  | a mode setting step of setting a first mode in which all of the plurality of separate images are to be rotated, a second mode in which a selected image of the plurality of separate images is to be rotated, and a third mode in which none of the plurality of separate images are to be rotated                    |               |    |        |
| 56  | a selection processing step of selecting the selected image when the second mode is set   |               |    |        |
|     | anda displaying direction control processing step of controlling a direction of display of the selected image by rotating the selected image according to   |               |    |        |
|     | the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other of the plurality of images  |               |    |        |
| 58  | said displaying direction control processing step further controlling the direction of display of the selected image when the angular component of the  |               |    |        |
|     | change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen  |               |    |        |
| 59  | processing detects the angular component of the change of posture of the display screen  The information processing method according to claim 7, wherein said display processing step displays a plurality of windows as the plurality of images,   |               |    |        |
|     | and controls the direction of display of a selected window from the plurality of windows according to the rotation of the display screen  |               |    |        |
| 60  | said display processing step displays a plurality of windows as the plurality of images, and controls the direction of display of a selected window from the plurality of windows according to the rotation of the display screen   |               |    |        |
| 61  | pluratity of windows according to the rotation of the display screen  The information processing method according to claim 7, wherein said displaying direction control processing step rotates said selected image according   |               |    |        |
|     | to the rotation of the display screen beyond a predetermined range  |               |    |        |
| 62  | said displaying direction control processing step rotates said selected image according to the rotation of the display screen beyond a predetermined range  |               |    |        |
| 63  | The information processing method according to claim 9, wherein said displaying direction control processing step rotates said selected image when the  |               |    |        |
|     | display screen remains rotated beyond the predetermined range after a predetermined time  |               |    |        |
| 64  | said displaying direction control processing step rotates said selected image when the display screen remains rotated beyond the predetermined range after a predetermined time   |               |    |        |
| 65  | An information processing method comprising: a display processing step of displaying separate images on a display screen  |               |    |        |
| 66  | a detection processing step of detecting an angular component of a change of posture of the display screen  |               |    |        |
| 67  | a mode setting step of setting a first mode in which all of the separate images are to be rotated, a second mode in which an image of the separate images is to be rotated, and a third mode in which none of the separate images are to be rotated.  |               |    |        |
| 68  | a selection processing step of selecting the image when the second mode is set  |               |    |        |
|     | and a displaying direction control processing step of controlling a direction of display of the image by rotating said image according to the angular   |               |    |        |
|     | component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other images wherein said displaying direction control processing step rotates said image according to the change of posture of the display screen beyond a                   |               |    |        |
|     | predetermined range when the angular component of the change of posture of the display screen detected by the detection processing step remains   |               |    |        |
| 70  | unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen  |               |    |        |
|     | a display processing step of displaying separate images on a display screen  a detection processing step of detecting an angular component of a change of posture of the display screen   |               |    |        |
|     | a detection processing step of detecting an angular component of a change of posture of the display screen  a mode setting step of setting a first mode in which all of the separate images are to be rotated, a second mode in which an image of the separate images   |               |    |        |
|     | is to be rotated, and a third mode in which none of the separate images are to be rotated   |               |    |        |
|     | a selection processing step of selecting the image when the second mode is set  |               |    |        |
| 74  | and a displaying direction control processing step of controlling a direction of display of the image by rotating said image according to the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other images            |               |    |        |
|     | whereinsaid displaying direction control processing step rotates said image according to the change of posture of the display screen beyond a   |               |    |        |
|     | predetermined range when the angular component of the change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen                        |               |    |        |
| 75  | The information processing method according to claim 11, wherein said displaying direction control processing step rotates said image when the display  |               |    |        |
|     | screen remains rotated beyond the predetermined range after a predetermined time  |               |    |        |
| 76  | said displaying direction control processing step rotates said image when the display screen remains rotated beyond the predetermined range after a predetermined time  |               |    |        |
| 77  | A computer-readable medium encoded with a program which causes an information processing apparatus to execute a processing, the processing  |               |    |        |
|     | comprising: a display processing step of displaying a plurality of separate images on a display screen  |               |    |        |
|     | a detection processing step of detecting an angular component of a change of posture of the display screen  a mode setting step of setting a first mode in which all of the plurality of separate images are to be rotated, a second mode in which a selected image of  |               |    |        |
| ,,, | a mode setting step of setting a first mode in which all of the plurality of separate images are to be rotated, a second mode in which a selected image of<br>the plurality of separate images is to be rotated, and a third mode in which none of the plurality of separate images are to be rotated                 |               |    |        |
| 80  | a selection processing step of selecting the selected image when the second mode is set   |               |    |        |
| 81  | and a displaying direction control processing step of controlling a direction of display of the selected image by rotating said selected image according to the annular component of the change of posture of the display screen detected by the detection processing step and not rotation at least one of the other |               |    |        |
|     | the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other of the plurality of images  |               |    |        |
|     |   |               |    |        |
|     |   |               |    |        |

| 82  | said displaying direction control processing step further controlling the direction of display of the selected image when the angular component of the   |  |  |
|-----|--|--|--|
|     | change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen   |  |  |
|     |  |  |  |
| 83  | a display processing step of displaying a plurality of separate images on a display screen   |  |  |
| 84  | a detection processing step of detecting an angular component of a change of posture of the display screen   |  |  |
| 85  | a mode setting step of setting a first mode in which all of the plurality of separate images are to be rotated, a second mode in which a selected image of the plurality of separate images is to be rotated, and a third mode in which none of the plurality of separate images are to be rotated   |  |  |
| 86  | a selection processing step of selecting the selected image when the second mode is set  |  |  |
| 87  | anda displaying direction control processing step of controlling a direction of display of the selected image by rotating said selected image according to   |  |  |
| 07  | and depaying direction control processing step or communing a direction or display or are selected image by retaining said selected image according to<br>the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other<br>of the plurality of images  |  |  |
| 88  | said displaying direction control processing step further controlling the direction of display of the selected image when the angular component of the   |  |  |
|     | change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the display screen   |  |  |
| 89  | The computer-readable medium according to claim 13, wherein said displaying direction control processing step rotates said selected image according to the rotation of the display screen beyond a predetermined range   |  |  |
| 90  | said displaying direction control processing step rotates said selected image according to the rotation of the display screen beyond a predetermined rance   |  |  |
| 91  | The computer-readable medium according to claim 14, wherein said displaying direction control processing step rotates said selected image when the display screen remains rotated beyond the predetermined range after a predetermined time  |  |  |
| 92  | said displaying direction control processing step rotates said selected image when the display screen remains rotated beyond the predetermined range after a predetermined time  |  |  |
| 93  | A computer-readable medium encoded with a program which causes an information processing apparatus to execute a processing, the processing comprising: a display processing step of displaying separate images on a display screen   |  |  |
| 94  | a detection processing step of detecting an angular component of a change of posture of the display screen   |  |  |
| 95  | a mode setting step of setting a first mode in which all the separate images are to be rotated, a second mode in which an image of the separate images is  |  |  |
|     | to be rotated, and a third mode in which none of the separate images are to be rotated   |  |  |
| 96  | a selection processing step of selecting the image when the second mode is selected  |  |  |
| 97  | and a displaying direction control processing step of controlling a direction of display of the image by rotating said image according to the angular  |  |  |
|     | component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other images   |  |  |
| 98  | said displaying direction control processing step rotates said image according to the change of posture of the display screen beyond a predetermined range when the angular component of the change of posture of the display screen detected by the detection processing step remains unchanged for a   |  |  |
| 99  | predetermined time after the detection processing detects the angular component of the change of posture of the display screen a display processing step of displaying separate images on a display screen   |  |  |
| 100 |  |  |  |
|     | a detection processing step of detecting an angular component of a change of posture of the display screen   |  |  |
| 101 | a mode setting step of setting a first mode in which all the separate images are to be rotated, a second mode in which an image of the separate images is to be rotated, and a third mode in which none of the separate images are to be rotated   |  |  |
| 102 | a selection processing step of selecting the image when the second mode is selected  |  |  |
| 103 | and a displaying direction control processing step of controlling a direction of display of the image by rotating said image according to the angular component of the change of posture of the display screen detected by the detection processing step and not rotating at least one of the other images   |  |  |
| 104 | said displaying direction control processing step rotates said image according to the change of posture of the display screen beyond a predetermined range when the angular component of the change of posture of the display screen detected by the detection processing step remains unchanged for a predetermined time after the detection processing detects the angular component of the change of posture of the change of posture of the change of posture of the display screen. |  |  |
| 105 | The computer-readable medium according to claim 16, wherein said displaying direction control processing step rotates said image when the display  |  |  |
| 106 | screen remains rotated beyond the predetermined range after a predetermined time<br>said displaying direction control processing step rotates said image when the display screen remains rotated beyond the predetermined range after a<br>predetermined time  |  |  |
| 107 | An information processing apparatus comprising: a display screen   |  |  |
| 108 | a sensor configured to detect an angular component of a change of posture of the display screen  |  |  |
| 109 | a mode setting unit configured to set a first mode in which all of a plurality of separate images configured to be displayed on the display screen are to be rotated   |  |  |
| 110 | a second mode in which a selected image of the plurality of separate images is to be rotated   |  |  |
| 111 | and a third mode in which none of the plurality of separate images are to be rotated   |  |  |
| 112 | a selecting unit configured to select the selected image when the second mode is set   |  |  |
| 113 | and a display direction control unit configured to display the plurality of separate images on said display screen   |  |  |
| 114 | and for controlling a direction of display of the selected image by rotating the selected image according to the angular component of the change of  |  |  |
|     | posture of the display screen detected by the sensor and not rotating at least one of the other of the plurality of images   |  |  |
| 115 | said display direction control unit further configured to control the direction of display of said selected image by rotating said selected image when the angular component of the change of posture of the display screen detected by the sensor remains unchanged for a predetermined time after the sensor   |  |  |
| 116 | detects the angular component of the change of posture of the display screen   |  |  |
| 116 | a display screena sensor configured to detect an angular component of a change of posture of the display screen a mode setting unit configured to set a first mode in which all of a plurality of separate images configured to be displayed on the display screen are to be   |  |  |
| 118 | rotated a second mode in which a selected image of the plurality of separate images is to be rotated   |  |  |
| 118 | a second mode in which a selected image of the plurality of separate images is to be rotated and a third mode in which none of the plurality of separate images are to be rotated  |  |  |
| 119 | and a third mode in which none of the plurality of separate images are to be rotated a display screena selecting unit configured to select the selected image when the second mode is set  |  |  |
| 120 | a display screena selecting unit configured to select the selected image when the second mode is set anda display direction control unit configured to display the plurality of separate images on said display screen   |  |  |
| 122 | and a display direction control unit configured to display the plurality of separate images on said display screen  and for controlling a direction of display of the selected image by rotating the selected image according to the angular component of the change of  |  |  |
| 122 | posture of the display screen detected by the sensor and not rotating at least one of the other of the plurality of images   |  |  |
| 123 | said display direction control unit further configured to control the direction of display of said selected image by rotating said selected image when the<br>angular component of the change of posture of the display screen delected by the sensor remains unchanged for a predetermined time after the sensor<br>detects the angular component of the change of posture of the display screen.   |  |  |
| 124 | The information processing apparatus according to claim 18   |  |  |
| 125 | wherein said display direction control unit is further configured to display a plurality of windows as the plurality of images   |  |  |
| 126 | and control the direction of display of a selected window from the plurality of windows according to the change of posture of the display screen   |  |  |
| 127 | The information processing apparatus according to claim 18, wherein said display direction control unit is further configured to control the direction of  |  |  |
| 128 | display of said selected image by rotating said selected image according to the rotation of the display screen beyond a predetermined range  |  |  |
| 128 | The information processing apparatus according to claim 20 wherein said display direction control unit is further configured to control the direction of display of said selected image by rotating said selected image  |  |  |
| 129 | wherein said display direction control unit is further configured to control the direction of display of said selected image by rotating said selected image when the display screen remains rotated beyond the predetermined range after a predetermined time   |  |  |
|     |  |  |  |

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