

CLAIMS

1. A computer implemented method for determining a controller mobile terminal unit "MTU" in a computer network of a restaurant management system with a plurality of handheld devices, wherein the controller mobile terminal unit provides a centralized handling of the data traffic between mobile terminal units of the computer network and updates all other mobile terminal units of the computer network, the method comprising
 - providing a device list on each of the handheld devices, the device list comprising identifiers of the handheld devices,
 - determining a current controller device from among the devices of the device list, the controller device being a mobile terminal unit (MTU),
 - broadcasting a controller query message in predetermined time intervals,
 - waiting for an acknowledgment message for a predetermined waiting time, andif no acknowledgement message is received within the predetermined waiting time:
 - determining that the current controller device is not responsive, andif it is determined that the current controller device is not responsive:
 - determining a new controller device according to a device rank that is uniquely associated with each entry in the device list, wherein the determination of the new controller comprises repeating, until an available device is found, the steps of
 - looking for a next device in the device list according to the device rank and

- determining if the next device is available, wherein the available device switches to a controller mode and broadcasts this information to the other devices, and wherein the other devices update their local copies of the controller list.
2. The method according to claim 1, further comprising identifying the next controller by selecting the device with the next highest device rank from the device list.
 3. The method according to claim 1, further comprising identifying the next controller by selecting a device with the next highest device rank from the device list, and, if the new controller device is identical to a current device on which the selection step is executed,
 - setting up the current device as a controller, the set-up including
 - updating the device list.
 4. A computer readable code for executing a method according to claim 1 on a handheld computer.
 5. A computer readable storage medium, the computer readable storage medium comprising the computer readable code according to claim 4.
 6. A mobile device for a restaurant management system, comprising
 - a display,
 - an input means,
 - a wireless communication means,
 - a computer readable memory, the computer readable memory comprising
 - a controller dish order list,

- a device list, and
- a computing means, the display, the input means, the wireless communication means and the computer readable memory being connected to the computing means, wherein the mobile device is operative to
 - receive a first synchronization message, the first synchronization message comprising a first synchronization time and one or more order entries of a first client dish order list,
 - update the controller dish order list based on the received first synchronization message,
 - generate a current timestamp,
 - select zero or more entries from the controller dish order list based on the current timestamp and the received first synchronization time, and
 - generate a second synchronization message comprising the current timestamp and the selected entries of the controller dish order list, wherein the mobile device is operative to determine a controller device according to a device ranking in the device list, the determination of the controller comprising
 - broadcasting a controller query message in predetermined time intervals,
 - waiting for an acknowledgment message for a predetermined waiting time, and
- if no acknowledgement message is received within the predetermined waiting time:
 - determining that the current controller device is not responsive, and
- if it is determined that the current controller device is not responsive:
 - determining a new controller device according to a device rank that is uniquely associated with each entry in the device list.

7. An electronic restaurant management system comprising
- a first mobile terminal unit "MTU",
 - a second mobile terminal unit "MTU", and
 - a third mobile terminal unit "MTU",
- the first, second and third MTUs comprising respective first, second and third local copies of a device list, the devices in the device list comprising the first, second and third MTU, and the devices in the device list being uniquely associated to a device rank, the first MTU being configured to run in a controller mode, the second MTU and the third MTU being configured to run in a client mode,
- the second MTU and the third MTU being operative to
- determine, by using the device list, that the first MTU is the current controller device,
 - send controller query signals to the first MTU over a wireless connection and to
 - wait for an acknowledgement message from the first MTU for a predetermined waiting time, and, if no acknowledgement message is received within the predetermined waiting time, to
 - mark the first MTU in the respective local copy of the device list as unresponsive and to
 - select a new controller device from the respective local copy of the device list, the new controller being the device that has the highest device rank among those devices that are not marked as unresponsive in the respective local copy of the device list,
- wherein the determination of the new controller comprises repeating, until an available device is found, the steps of
- looking for a next device in the device list according to the device rank and

- determining if the next device is available, the second MTU and the third MTU being operative to switch to a controller mode and to broadcast this information over the wireless connection.
8. An electronic restaurant management system according to claim 7, wherein the step of assigning a controller function is performed independently on the second MTU and the third MTU.
 9. An electronic restaurant management system according to claim 7, wherein the second MTU and the third MTU are operative to
 - exchange messages after the step of assigning a controller function, the messages enabling the second MTU and the third MTU to detect if the new controller assigned by the second MTU is identical to the new controller assigned by the third MTU.