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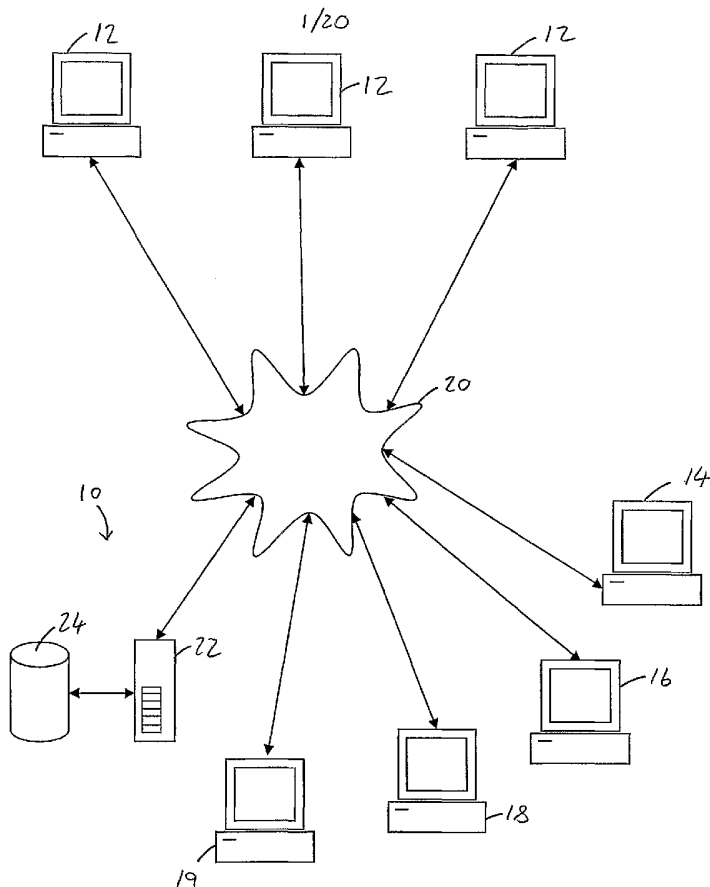
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(54) Title: A MOORING SYSTEM



(57) Abstract: A mooring system (10) is disclosed which comprises a database (24) arranged to store a plurality of mooring records, each mooring record including information indicative of a mooring, booking information indicative of whether the mooring is booked, and booking data indicative of the identity of the user in respect of which the mooring is booked and of the date and/or time period for which the mooring is booked. The system (10) also includes communications means (22) arranged to facilitate communications between the system (10) and a remotely located user device (12, 14, 16, 18, 19) such that booking information is receivable by the remotely located user device from the mooring system (10) for viewing by a user. A corresponding method is also described.

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A MOORING SYSTEM

Field of the Invention

5 The present invention relates to a mooring system.

Background of the Invention

10 It is known to provide moorings of various types for use
by vessels to maintain the vessel at a relatively fixed
position on a body of water without the need to use the
vessel's anchor which may cause damage to the environment.
Currently available moorings are generally either
15 government operated and controlled and useable by the
public, or privately owned and useable only by those
authorised by the owner.

20 However, in some areas the number of moorings available
for use by the public is insufficient to meet the demand.

In the present specification the term "mooring" will be
understood to mean a place or apparatus usable to moor a
boat and includes sea-bed anchors, pens, docks, and so on.

25 Summary of the Invention

In accordance with a first aspect of the present
invention, there is provided a mooring system comprising:
a database arranged to store a plurality of mooring
30 records, each mooring record including:
information indicative of a mooring;
booking information indicative of whether the
mooring is booked; and
if the mooring is booked, booking data
35 indicative of the identity of the user in respect of
which the mooring is booked and of the date and/or
time period for which the mooring is booked; and

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communications means arranged to facilitate
communications between the system and a remotely located
user device such that booking information is receivable by
the remotely located user device from the mooring system
5 for viewing by a user.

In one arrangement, the system is arranged such that
during use booking information associated with a mooring
desired to be booked by a user is receivable from a
10 remotely located user device, and the mooring record
associated with the desired mooring is updated so as to
indicate that the mooring is booked and so as to include
the identity of the user and the date and/or time period
for which the mooring is booked.

15

In one arrangement, each mooring record includes
maintenance information indicative of the condition of a
mooring at a previous service. The maintenance
information may also include information indicative of the
20 expected condition of the mooring at a subsequent service,
the suggested next service date, and/or whether each
component of the mooring is expected to require replacing
at a subsequent service. The maintenance information may
include information indicative of measurements of
25 components of a mooring. The system may also be arranged
to facilitate entry of measurement data into each mooring
record, which data is used to update current measurement
information in the mooring record.

30 In one arrangement, the system is arranged so as to
facilitate ordering of mooring components. The system may
also be arranged to facilitate ordering of marine related
equipment, materials, accessories or services.

35 In one arrangement, the system is arranged so as to
facilitate access to the system by remote user devices
associated with members of the public, owners of moorings,

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controlling authorities, operators of marinas, yacht clubs, harbour masters, insurance companies and/or mooring contractors. The system may be arranged to modify communications to the devices depending on the type of user.

The system may also be arranged to store information indicative of moorings and/or vessels available for sale and to make information indicative of the moorings and/or vessels available for sale viewable using a remotely located user device.

The system may be arranged such that the system is communicable with user devices in the form of computing devices which may be personal computing devices, portable computing devices, personal digital assistants (PDA), mobile telephones, and any other communications enabled computing device.

The system may be arranged to facilitate communications with remote computing devices through the Internet, by SMS messaging, or using any other suitable communications mechanism.

In one arrangement, the system includes a system computing device arranged to serve web pages to remotely located user devices.

Preferably, the system is arranged so as to facilitate searching through the mooring records based on user defined criteria.

In accordance with a second aspect of the present invention, there is provided a method of managing moorings, said method comprising the steps of:

- providing a database;

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storing in the database a plurality of mooring records, each mooring record including information indicative of the mooring and booking information indicative of whether the mooring is booked, and, if the mooring is booked, booking data indicative of the identity of the user in respect of which the mooring is booked and of the date and/or time period for which the mooring is booked; and

facilitating communications between the system and a remotely located user device such that booking information is receivable by the remotely located user device from the database for viewing by a user.

The method may further comprise the steps of:

facilitating reception of booking data from a remotely located user device; and

updating a mooring record associated with a mooring so as to indicate the identity of the user and the date and/or time period for which the mooring is booked when booking data associated with the mooring is received from a remotely located user device.

In accordance with a third aspect of the present invention, there is provided a computer program arranged, when loaded into a computer, to instruct the computer to operate in accordance with a mooring system as described in the first aspect of the present invention.

In accordance with a fourth aspect of the present invention, there is provided a computer useable medium having a computer readable program code embodied therein for causing a computer to operate in accordance with a mooring system as desired in the first aspect of the present invention.

35

Description of the Drawings

The present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a block diagram of a mooring system in accordance with an embodiment of the present invention with the mooring system shown in relation to a plurality of computing devices; and

Figures 2 to 20 are representations of screens of the mooring system shown in Figure 1.

Description of an Embodiment of the Present Invention

In the following description of an embodiment of the invention, it will be understood that the invention may be implemented as hardware and/or software using an appropriate platform such as a computing system.

Referring to the drawings, in Figure 1 there is shown a mooring system 10 during use in communication with public terminals 12 associated with persons desiring to access the mooring system 10 for the purpose of booking and/or purchasing a mooring, an owner terminal 14 associated with an owner of a mooring, an authority terminal 16 associated with a controlling authority, an insurer terminal 18 associated with an insurer having an insurance risk in at least one of the moorings, and a mooring contractor terminal 19 associated with mooring contractors having an interest in installing and maintaining moorings.

In this example, the public terminals 12, the owner terminal 14, the authority terminal 16, the insurer terminal 18 and the mooring contractor terminal 19 communicate with the mooring system 10 through the Internet 20. However, it will be understood that any communications arrangement is envisaged, the important

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aspect being that the terminals 12, 14, 16, 18, 19 are able to communicate with the mooring system 10 from a remote location. For example, the mooring system 10 and the terminals 12, 14, 16, 18, 19 may be arranged so as to
5 communicate with each other using SMS messaging.

It will also be understood that although only one owner terminal 14, one authority terminal 16, one insurer terminal 18 and one mooring contractor terminal 19 are
10 illustrated in Figure 1, any number of these terminals may be present.

The mooring system 10 includes a system terminal 22 arranged to communicate with the terminals 12, 14, 16, 18,
15 19 and to serve web pages to the terminals 12, 14, 16, 18, 19 in response to requests from the terminals 12, 14, 16, 18, 19.

The mooring system 10 also includes a database 24 arranged
20 to store log-in details for users authorised to access the system 10, and a plurality of mooring records. Each mooring record includes information indicative of the owner of the mooring;

the controlling authority responsible for the
25 mooring;

the insurance company having an insurance risk in the mooring;

the location of the mooring; and

booking information indicative of whether the mooring
30 is booked, of the identity of the or each user for which the mooring is booked, and of the date and/or time period for which the mooring is booked.

Each mooring record also includes maintenance information
35 useable to coordinate and manage maintenance operations on moorings recorded with the system 10.

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The arrangement of the system is such that the mooring records are accessible through public terminals 12 and users of the public terminals 12 are able to search and book one or more desired moorings on-line, such that the mooring records are accessible through owner terminals 14 so that an owner may view his/her moorings, such that the mooring records are accessible through authority terminals 16 so that a controlling authority may review moorings controlled by the authority, such that the mooring records are accessible by insurer terminals 18 so that an insurance company may review moorings for which the insurance company has risk exposure, and such that the mooring records are accessible by mooring contractor terminals 19 so that a mooring contractor may review details of moorings, add new moorings, and manage maintenance and installation of moorings for which the mooring contractor is responsible.

In the present example, the mooring system 10 is arranged so that the interface between the terminals 12, 14, 16, 18, 19 and the system 10 is web based and, as such, web pages are served to the terminals during use to facilitate transfer of information to the terminals, reception of information from the terminals and searching of the mooring records stored in the database 24.

Referring to Figures 2 to 20, an example of a web based implementation of the mooring system 10 shown in Figure 1 will now be described.

The mooring system 10 includes two sections. A first section is a mooring maintenance section useable by mooring contractors to view, modify and manage mooring installation and maintenance of moorings for which the mooring contractors are responsible, and by controlling authorities and insurance companies to view mooring maintenance information relating to moorings for which the

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controlling authority or insurance company are responsible. A second section is a mooring booking section useable by the public to search for and book moorings, and by owners of the moorings to make moorings available for booking by members of the public.

Figures 2 to 16 of the drawings show screens of an example mooring maintenance section of the mooring system 10 and Figures 17 to 20 show screens of an example mooring booking section of the mooring system 10.

In Figure 2, there is shown a log-in screen 28 which is served to a terminal 12, 14, 16, 18, 19 when the mooring system 10 is first accessed by the terminal and a user has selected a maintenance section of the mooring system 10. Using the log-in screen 28, a user already registered with the system is able to enter log-in and password details into log-in boxes 30 in order to gain access to the system terminal 22 and the database 24. A new user is able to register with the system by activating a register link 31.

Following activation of the register link 31 or successful log-in of an existing registered user desiring to access the maintenance section, the system terminal 22 serves a user selection screen 32 as shown in Figure 3 to the relevant authority terminal 16, insurer terminal 18 or contractor terminal 19. The user selection screen 32 is used to indicate to the mooring system 10 whether the user is a representative of a mooring contractor, a representative of a controlling authority, or a representative of an insurance company. Selection of the user type is carried out by selecting an appropriate user type link 34 displayed on the user selection screen 32.

If the user selects a user type link 34 indicating that the user is a mooring contractor and the contractor is not already registered with the system 10, a contractor

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5 details screen 36 as shown in Figure 4 is served to the contractor terminal 19. The contractor details screen 36 is used to gather name, address and contact details of the contractor together with details of the regions serviced by the contractor. For this purpose, contractor details boxes 38 are provided on the contractor details screen 36. The contractor details boxes 38 also facilitate entry of a password for use during subsequent log-in by the contractor.

10

As shown in Figure 5, following successful log-in or completion of initial registration with the mooring system 10, the system terminal 22 serves a home page screen to the relevant terminal 19, in this example a contractor home page screen 40. However, it will be understood that if the user is a representative of a controlling authority or an insurance company the home page screen 40 would be modified to suit the controlling authority or insurance company.

20

The contractor home page screen 40 includes contractors links 42 useable to view or update jobs to be carried out on moorings associated with the mooring contractor; to view or update jobs due to be carried out in the current month; to add a new job to be carried out on a mooring; to add or edit a customer of the mooring contractor, that is an owner of a mooring or a controlling authority responsible for a mooring; or to manage material required by the mooring contractor to carry out maintenance on the moorings associated with the mooring contractor.

30

By selecting an appropriate contractor link 42, the user is able to display a jobs screen 44 as shown in Figure 6. The jobs screen 44 displays a summary of all moorings for which the contractor is responsible, and basic details of the moorings including a mooring ID number, the name of the owner of the mooring, an indication of the region in

35

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which the mooring is located, and details of the last and next service dates.

5 The jobs screen 44 also includes a view job button 46 for each displayed job, activation of a view job button 46 causing a job details screen 48 as shown in Figure 7 to be displayed.

10 The job details screen 48 serves as a service record for a mooring to indicate the results of a previous service, and as an aid to subsequent services by predicting which components of the mooring will need to be replaced at a subsequent service.

15 The job details screen 48 includes basic mooring details 50 which identifies the mooring ID number, the insurance company responsible for the mooring, the controlling authority responsible for the mooring, the owner of the mooring, the location of the mooring, and the frequency at
20 which mooring servicing should occur. As indicated by edit buttons 51, insurance company, controlling authority, and maintenance frequency fields are modifiable by selecting the appropriate edit button 51.

25 The job details screen 48 also includes mooring maintenance details 52 having information indicative of measurements of components of the mooring taken at a previous service, measurements expected at a subsequent service, a replacement measurement indicative of the
30 threshold measurement below which replacement of a component is necessary, the expected wear on each component, and whether each component is expected to require replacing. Current measurement boxes 53 are also provided for entering measurements taken at a service and
35 replaced check boxes 55 are provided for indicating whether a component has been replaced during the service.

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The job details screen 48 also includes expected materials details 54 which is derived from the mooring maintenance details 52 and which lists the components which are likely to require replacing and which should therefore be taken
5 to the next service.

In this example, as part of a service operation, a representative of a mooring contractor prints the job details screen 48 and takes the printed job details screen
10 to a service. During the service, the representative writes current measurements in the current measurement boxes 53 and marks the appropriate check boxes 55 to indicate the components that have been replaced. The data written on the printed job details screen can then be used
15 to complete the current measurement boxes 53 and the check boxes 55 on the job details screen 48 so as to thereby update the mooring maintenance details 52 after completion of the service.

20 By selecting an appropriate contractor link 42 on the contractor home page screen 40, a monthly job screen 56 as shown in Figure 8 may be displayed. The monthly job screen 56 displays details of all service jobs which are scheduled to be carried out for the current month. As
25 with the job details screen 48, the monthly job screen 56 includes details of the mooring ID number, the name of the owner of the mooring, an indication of the location of the mooring, and details of the last and next service dates. Each mooring also has an associated view jobs button 46
30 which, when activated, causes the job details screen 48 to be displayed.

By selecting an appropriate contractor link 42 on the contractor home page screen 40, an owner details screen 58
35 as shown in Figure 9 may be displayed. Using owner details boxes 59 on the owner details screen 58, a contractor is able to commence creation of a new service

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job by either selecting an existing customer, that is a mooring owner already recorded on the mooring system 10, or by entering details of a new customer. Following selection of an existing customer or entry of details of a new customer, a mooring location screen 60 as shown in Figure 10 is displayed. Using mooring location details boxes 61 on the mooring location screen 60, the contractor is able to enter location details for the new mooring and details of the responsible insurance company and controlling authority associated with the new mooring. The mooring location system 10 may also include a mechanism whereby a contractor is able to select the location of a mooring using an interactive map.

Following entry of the mooring location details, a template selection screen 62 as shown in Figure 11 is displayed. Using a customer name box 63 and a template selection box 64 on the template selection screen 62, the contractor is able to select a predefined mooring template which corresponds to the type of mooring to be added.

Following selection of a mooring template, a mooring component screen 66 as shown in Figure 12 is displayed. For some types of moorings, using mooring components boxes 68 on the mooring component screen 66, the contractor is able to modify details of the components for the mooring so as to correspond with the actual components of the mooring to be added. The remainder of the moorings are non-modifiable.

30

It will be understood that the mooring system 10 may be used by contractors to order required mooring components necessary for servicing operations and, for this purpose, by activating an appropriate contractor link 42 on the contractor home page screen 40, a component order screen 70 as shown in Figure 13 is displayed. The component order screen 70 includes details of forecasted components

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72 derived from the expected materials details 54 of all
moorings for which the contractor is responsible, details
of ordered components 74 which have already been ordered
by the contractor, and updated order boxes 76 which are
5 useable by the contractor to update the quantity of
ordered components.

If the user is a representative of a controlling authority
or a representative of an insurance company, the relevant
10 user type link 34 on the user selection screen 32 relating
to the controlling authority or insurance company is
selected and, following successive log-in or successful
registration of the controlling authority or insurance
company, a controlling authority home page or insurance
15 company home page is displayed as appropriate. It will be
understood that similar information is displayed and
similar options are available to the controlling
authorities and the insurance companies, except the
controlling authorities and the insurance companies are
20 unable to modify any of the displayed details and less
information is displayed.

As with the mooring contractors, new controlling
authorities not already registered with the mooring system
25 10 must enter name, address and region of operation
details together with a password prior to gaining access
to the mooring system 10. This is carried out by entering
details into authority details boxes 82 on an authority
details screen 80 as shown in Figure 14.

30

A similar process and insurer details screen (not shown)
is used to register new insurance companies with the
mooring system 10.

35 As with the mooring contractors registered with the
mooring system 10, the insurance companies are required to

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enter name, address and password details in order to register with the system.

As with the mooring contractors registered with the system
5 10, each of the controlling authorities and the insurance companies are also able to view all jobs for which the controlling authority or insurance company is responsible and a jobs screen 84 as shown in Figure 15 is provided for this purpose. As with the jobs screen 44 provided for the
10 mooring contractors, each mooring listed on the jobs screen 84 has an associated view job button 46 which, when activated, causes a job details screen 86 as shown in Figure 16 to be displayed.

15 The job details screen 86 is similar to the job details screen 48 shown in Figure 7 except that boxes useable to enter measurements taken during a maintenance survey are omitted and expected materials details 54 are omitted.

20 Figures 17 to 20 illustrate a second section of the mooring system 10, the second section being useable to search for moorings available for rent or sale, to book moorings available for rent, and to purchase moorings available for sale. In this example, the second section
25 is also useable to search for rental pens and boats for sale.

As shown in Figure 17, in order for a user to search for and book moorings, a user search screen 100 is served to
30 the appropriate user terminal 12 by the system terminal 22. The user search screen 100 includes search details boxes 102 which facilitate selection of a region to be covered by the search and the type of search, that is a search for moorings or pens for rental or a search for
35 moorings or pens for sale.

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Following selection of the region and search type, a dates selection screen 104 as shown in Figure 18 is displayed.

5 The dates selection screen 104 includes dates check boxes 106, each check box 106 corresponding to one day. Using the dates check boxes 106, the user is able to mark the dates on which it is desired to book a mooring or pen.

10 Following selection of the desired dates, an available moorings screen 108 as shown in Figure 19 is displayed. The available moorings screen 108 lists the moorings or pens which are available for booking on the selected dates together with the location of the mooring or pen. Each mooring displayed on the available moorings screen 108
15 includes a map button 112 which, when activated, displays a map illustrating the location of the mooring. The available moorings screen 108 also includes a book check box 114 which, when checked, indicates that the user wishes to book the checked mooring or pen. The available
20 moorings screen 108 may also include a link (not shown) to a map which depicts all available moorings.

Following selection of the desired moorings or pens, a booked moorings screen 116 as shown in Figure 20 is
25 displayed. The booked moorings screen 116 includes details of the booked moorings. Details of the booked moorings or pens are then included in the booking information associates with the relevant mooring and pen records stored in the database 24.

30

Where methods and systems of the present invention may be implemented by software applications, or partly implemented by software, they may take the form of program code stored or available from computer readable media,
35 such as CD-ROMs or any other machine readable media, the program code comprising instructions which, when loaded into a machine such as a computer, the machine then

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becomes a system for carrying out the invention. The computer readable media may include transmission media, such as cabling fibre-optics or any other form of transmission media.

5

It will be appreciated that the system may also be used to facilitate searching for and rental of charter vessels such as charter yachts.

10 It will be appreciated that the system may be implemented at one location, for example at the site of administrators of the mooring system 10, or the system may be implemented by locating different parts of the system at different
15 locations, with the different parts communicating with each other using any suitable communications network, such as the Internet. In the present above described
embodiment, the system terminal 22 and the database 24 may be disposed at the same location or may be disposed at
20 different locations and arranged so as to communicate with each other using a suitable communications network.

It will be appreciated that the mooring system of the present invention effectively makes more moorings
25 available for use by the public by allowing users to book privately owned moorings.

It will also be appreciated that by providing a mechanism whereby users are able to book privately owned moorings
and pens for use and charging a suitable booking fee,
30 owners of private moorings and pens and controlling authorities may be provided with an income stream. A side effect of this will be to encourage owners of the
moorings/pens and controlling authorities responsible for
moorings/pens to carry out regular maintenance of the
35 moorings/pens to minimise insurance liability.

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It will also be appreciated that by integrating mooring contractors and mooring maintenance with the mooring system, a mechanism is provided for ensuring that moorings are regularly maintained and insurance liability is
5 thereby minimised.

It will also be appreciated that by integrating insurance companies with the mooring system, the insurance companies are able to verify that maintenance is being regularly
10 carried out on moorings and, as a result, insurance premiums payable by controlling authorities and private mooring owners may thereby be minimised.

It will also be appreciated that since the mooring system
15 brings together several mooring contractors, each of which is encouraged to purchase mooring components from one or more suppliers associated with the mooring system, it is possible for each of the mooring contractors to obtain a price for each component which is less than would
20 otherwise be possible.

It will also be appreciated that by providing vessel owners with an increased number of available moorings, boating safety is improved. In addition the vessel owners
25 are encouraged to use moorings instead of the vessel's anchor which assists in maintaining the environment.

It will also be appreciated that the mooring system provides controlling authorities and mooring owners with a
30 non-labour intensive way of monitoring, managing and maintaining moorings.

It will also be appreciated that the mooring system may be arranged to facilitate searching and ordering of marine
35 related equipment, materials, accessories or services.

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It will also be appreciated that geographical references to mooring locations displayed by the system may also serve as links to respective maps of the locations of the moorings.

5

Throughout this specification the term "comprising" is used inclusively, in the sense that there may be other features and/or steps included in the invention not expressly defined or comprehended in the features or steps subsequently defined or described. What such other features and/or steps may include will be apparent from the specification read as a whole.

Modifications and variations as would be apparent to a skilled addressee are deemed to be within the scope of the present invention.

15

CLAIMS:

1. A mooring system comprising:
a database arranged to store a plurality of mooring
5 records, each mooring record including:
information indicative of a mooring;
booking information indicative of whether the
mooring is booked; and
if the mooring is booked, booking data
10 indicative of the identity of the user in respect of
which the mooring is booked and of the date and/or
time period for which the mooring is booked; and
communications means arranged to facilitate
communications between the system and a remotely located
15 user device such that booking information is receivable by
the remotely located user device from the mooring system
for viewing by a user.
2. A mooring system as claimed in claim 1, wherein the
20 system is arranged such that during use booking data
associated with a mooring desired to be booked by a user
is receivable from a remotely located user device, and the
mooring record associated with the desired mooring is
updated so as to indicate that the mooring is booked and
25 so as to include the identity of the user and the date
and/or time period for which the mooring is booked.
3. A mooring system as claimed in claim 1 or claim 2,
wherein each mooring record includes maintenance
30 information indicative of the condition of a mooring at a
previous service.
4. A mooring system as claimed in claim 3, wherein the
maintenance information includes information indicative of
35 the expected condition of the mooring at a subsequent
service, the suggested next service date, and/or whether

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each component of the mooring is expected to require replacing at a subsequent service.

5. A mooring system as claimed in claim 3 or claim 4,
5 wherein the maintenance information includes information indicative of measurements of components of a mooring at a previous service.

6. A mooring system as claimed in claim 5, wherein the
10 system is arranged to facilitate entry of measurement data into each mooring record, which data is used to update said measurement information in the mooring record taken at a previous service.

15 7. A mooring system as claimed in any one of the preceding claims, wherein the system is arranged so as to facilitate ordering of mooring components and/or marine related equipment, materials, accessories or services.

20 8. A mooring system as claimed in any one of the preceding claims, wherein the system is arranged to store information indicative of moorings and/or vessels available for sale and to make information indicative of the moorings and/or vessels available for sale viewable
25 using a remotely located user device.

9. A mooring system as claimed in any one of the preceding claims, wherein the system is communicable with personal computing devices, portable computing devices,
30 personal digital assistants (PDA) or mobile telephones.

10. A mooring system as claimed in any one of the preceding claims, wherein the system is arranged to facilitate communications with remote computing devices
35 through the Internet or by SMS messaging.

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11. A mooring system as claimed in any one of the preceding claims, wherein the system is arranged so as to facilitate searching through the mooring records based on user defined criteria.

5

12. A method of managing moorings, said method comprising the steps of:

providing a database;

storing in the database a plurality of mooring records, each mooring record including information indicative of the mooring and booking information indicative of whether the mooring is booked, and, if the mooring is booked, booking data indicative of the identity of the user in respect of which the mooring is booked and of the date and/or time period for which the mooring is booked; and

facilitating communications between the system and a remotely located user device such that booking data is receivable by the remotely located user device from the database for viewing by a user.

20

13. A method as claimed in claim 12, further comprising the steps of:

facilitating reception of booking data from a remotely located user device; and updating a mooring record associated with a mooring so as to indicate the identity of the user and the date and/or time period for which the mooring is booked when booking data associated with the mooring is received from a remotely located user device.

30

14. A method as claimed in claim 12 or claim 13, further comprising the step of updating the mooring record associated with a desired mooring so as to indicate that the mooring is booked and so as to include the identity of the user and the date and/or time period for which the mooring is booked when booking data associated with the

35

- 22 -

desired mooring is received from a remotely located user device.

15 15. A method as claimed in any one of claims 12 to 14, further comprising the step of storing in the database maintenance information indicative of the condition of a mooring at a previous service.

10 16. A method as claimed in claim 15, wherein the maintenance information includes information indicative of the expected condition of the mooring at a subsequent service, the suggested next service date, and/or whether each component of the mooring is expected to require replacing at a subsequent service.

15

17. A mooring system as claimed in claim 15 or claim 16, wherein the maintenance information includes information indicative of measurements of components of a mooring at a previous service.

20

18. A method as claimed in any one of claims 12 to 17, further comprising the step of facilitating ordering of mooring components and/or marine related equipment, materials, accessories or services.

25

19. A mooring method as claimed in any one of claims 12 to 18, further comprising the steps of storing in the database information indicative of moorings and/or vessels available for sale, and making information indicative of the moorings and/or vessels available for sale viewable using a remotely located user device.

30

20. A method as claimed in any one of claims 12 to 19, further comprising the step of facilitating communication between the system and personal computing devices, portable computing devices, personal digital assistants (PDA) or mobile telephones.

35

21. A method as claimed in any one of claims 12 to 20,
further comprising the step of facilitating communications
with remote computing devices through the Internet or by
5 SMS messaging.

22. A method as claimed in any one of claims 12 to 21,
further comprising the step of facilitating searching
through the mooring records based on user defined
10 criteria.

23. A computer program arranged, when loaded into a
computer, to instruct the computer to operate in
accordance with a mooring system as claimed in any one of
15 claims 1 to 11.

24. A computer useable medium having a computer readable
program code embodied therein for causing a computer to
operate in accordance with a mooring system as claimed in
20 any one of claims 1 to 11.

25. A mooring system substantially as hereinbefore
described with reference to, and as shown in, the
accompanying drawings.
25

26. A method of managing moorings substantially as
hereinbefore described with reference to, and as shown in,
the accompanying drawings.

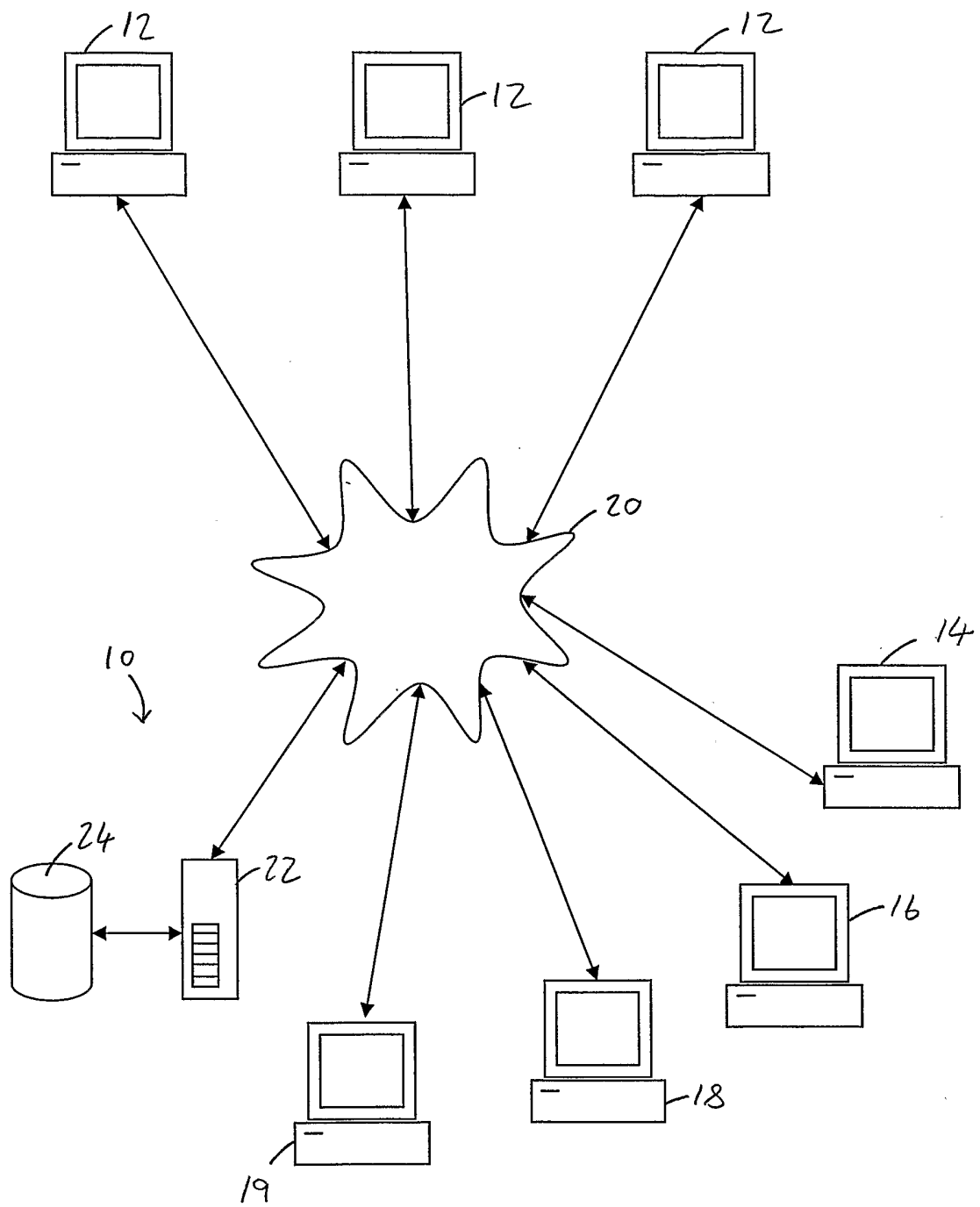


Fig. 1

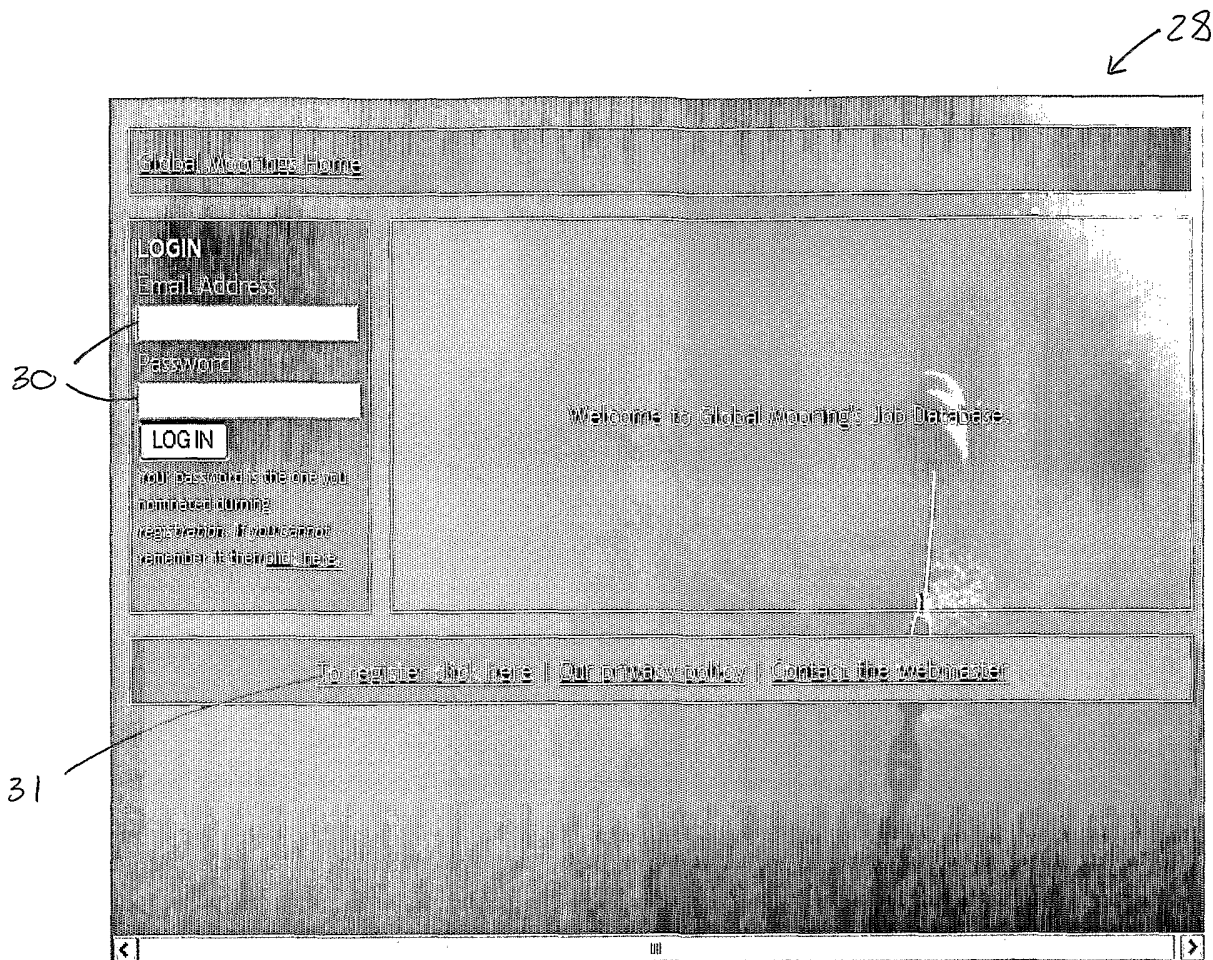


Fig. 2

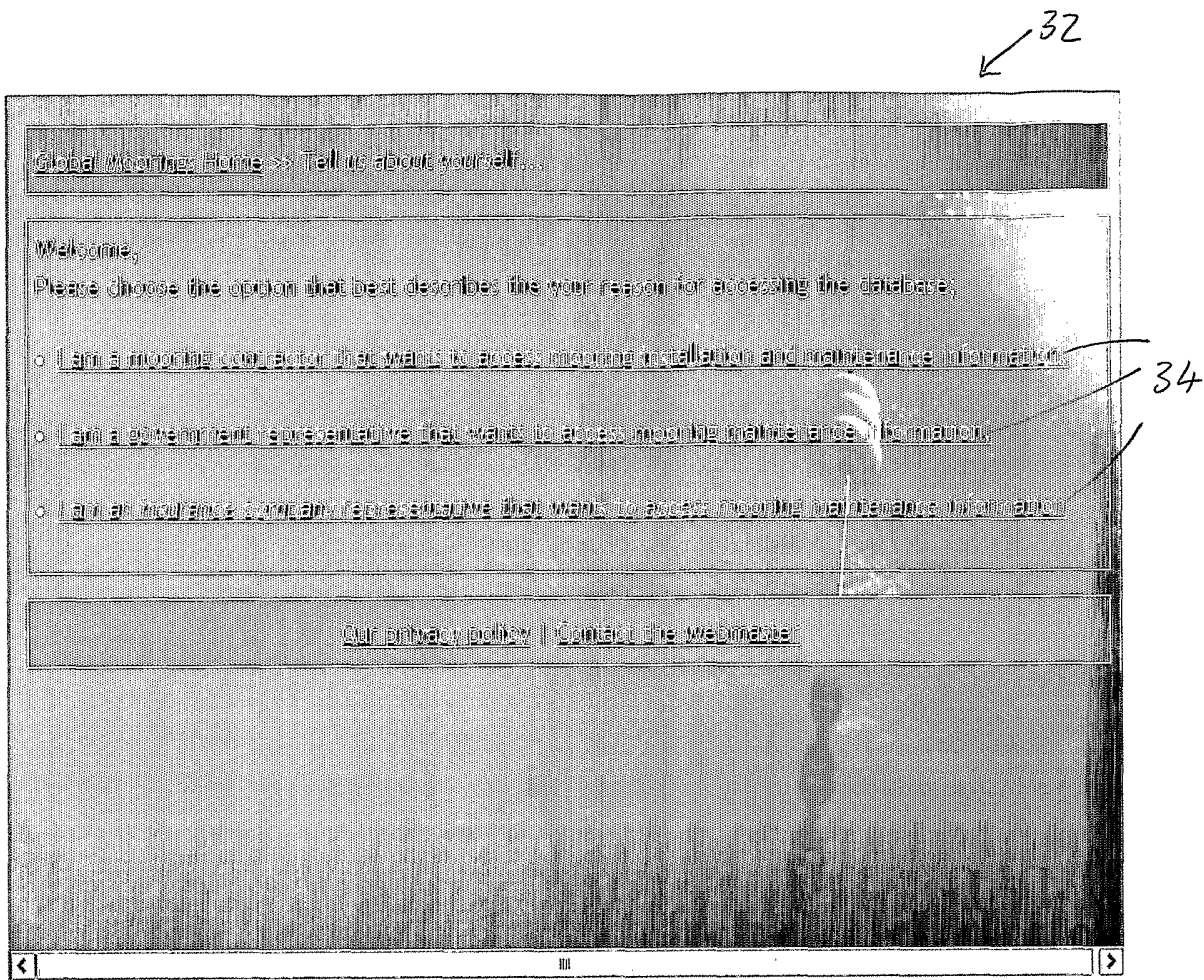


Fig. 3

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Global Woorling Home >> Contractors Registration Page

Welcome to Advanced Woorling Technology's Job database registration.
Please register by completing the form below.

First Name	John
Last Name	Smith
Email Address	john.smith@wetcontracting.com
Organization	Wet Contracting
Office Phone	03 95849584
Fax	03 95849584
Mobile	0410 254 032
Mail Address	
Street	44 Ocean Blvd
Suburb	Oceanica
State	VIC
Postcode	3214
Country	Australia
Preferred region of operation	Choose a region
Other regions of operation	Choose another region
Password to use (your password needs to be a special character and have 12 characters)
Repeat Password

Submit

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Fig. 4

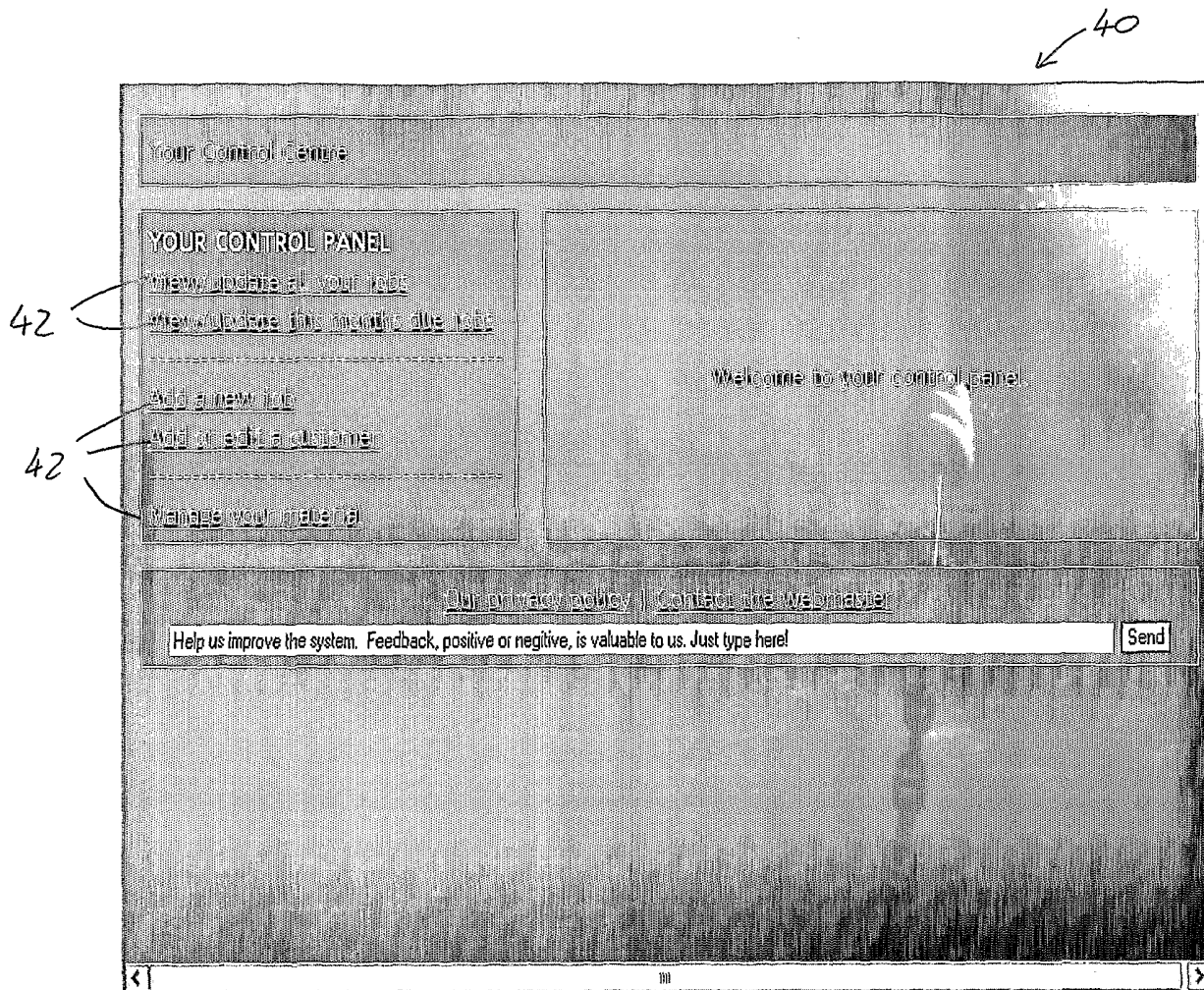


Fig. 5

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Your Control Centre >> All Jobs Summary

Mooring ID	Owner Name	Postcode	Region	Last Service	Next Service	View Card
38	Jack Fisher	3452	Southern Victoria	1/24/03	1/24/04	View
284	Martin Fillet	3214	Southern Victoria	1/24/03	1/24/04	View
289	Barry Angler	3034	Southern Victoria	1/26/03	1/26/04	View
393	Ted Bullitt	3015	Southern East Victoria	1/24/03	1/24/04	View
38	Bill Tournier	3452	Southern Victoria	1/24/03	1/24/04	View
284	Red Empire	3214	Southern East Victoria	1/24/03	1/24/04	View
289	Bob Mawata	3034	Southern Victoria	1/24/03	1/24/04	View
393	Harry Upanswin	3015	Southern East Victoria	1/22/03	1/22/04	View

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Fig. 6

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Your Control Centre >> All Jobs Summary >> Working ID 32

Working ID	32		Date	05/05/04	05/05/04	05/05/04
Insurance Company	Waters Power & Light	<input type="button" value="Edit"/>	Nothing	8874	8874	8874
Controlling Authority	Edis Mersea	<input type="button" value="Edit"/>	DTM	50 WPS		
Owner	Edis Mersea	<input type="button" value="Edit"/>	Devids	45	Start	MC
Region	Southdown Forest		Maintenance frequency	365 Days		<input type="button" value="Edit"/>

Part Name <small>(Click on part name for description)</small>	Last Measure-ment	Expected Measure-ment	Replace size	Expected Wear %	Forecasting Needing Replacing	New Size	Replaced (tick)
Balls	41 mm	45.5 mm	45 mm	55	Yes		<input type="checkbox"/>
Balls handle	200 mm	195 mm	200 mm	46	No		<input type="checkbox"/>
Balls handle BS	42 mm	37 mm	35 mm	72	Yes		<input type="checkbox"/>
Rubber job	20 mm	52 mm	45 mm	47	No		<input type="checkbox"/>
Swivel	15 mm	15 mm	15 mm	54	Yes		<input type="checkbox"/>
Spindle nut	12 mm	11.5 mm	11 mm	25	No		<input type="checkbox"/>
Locking bar	9.5 mm	14 mm	14 mm	38	Yes		<input type="checkbox"/>
Roller handle	12 mm	11 mm	10 mm	21	No		<input type="checkbox"/>
Bush	12 mm	14 mm	14 mm	76	Yes		<input type="checkbox"/>
Lower nylon bush	12 mm	12 mm	12 mm	27	No		<input type="checkbox"/>
Spindle block	15 mm	15 mm	15 mm	37	No		<input type="checkbox"/>
Bush	200 mm	197 mm	195 mm	4	No		<input type="checkbox"/>
Lower nylon bush	15 mm	12 mm	12 mm	72	Yes		<input type="checkbox"/>
Roller	220 mm	200 mm	200 mm	11	No		<input type="checkbox"/>
Upper nylon handle	15 mm	15 mm	15 mm	41	No		<input type="checkbox"/>
Subsidiary block	200 mm	200 mm	200 mm	30	No		<input type="checkbox"/>
Resistor extension cable	12 mm	11.5 mm	11 mm	30	No		<input type="checkbox"/>
Chain	14 mm	16 mm	16 mm	35	Yes		<input type="checkbox"/>
Lower pedal spindle	12 mm	11 mm	10 mm	5	No		<input type="checkbox"/>
Concrete block	12 mm	11 mm	9 mm	17	No		<input type="checkbox"/>

Last Inspection Note:
There appeared to be excessive wear around the lower spindle, probably due to steel wire.

Notes:

Materials expected for this job

Part Group	Part Name	Qty	Description	Qty	Used
Balls	30mm Ball	1		1	<input type="checkbox"/>
Balls handle	45mm BH	1		1	<input type="checkbox"/>
Swivel	35mm Swivel	1		1	<input type="checkbox"/>
Locking bar	9.5 mm BS wire	1		1	<input type="checkbox"/>
Bushy shaft	B Glass Shaft	1		1	<input type="checkbox"/>
Lower nylon bush	Type 2 Bush	1		1	<input type="checkbox"/>
Chain	15 Gauge BS	1		1.2	<input type="checkbox"/>
Other material used					
Other material used					
Other material used					

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Fig. 7

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Your Contact Centre >> This morning's Job Summary

Mooring ID	Owner Name	Postcode	Region	Last Service	Next Service	View Card
38	Jack Fisher	3452	Southern Victoria	1/4/03	1/4/04	View
274	Mark Fibers	3214	Southern Victoria	1/4/03	1/4/04	View
289	Barry Angler	3034	Southern Victoria	1/4/03	1/4/04	View
343	Ted Bullant	3015	South East Victoria	1/4/03	1/4/04	View
38	Bill Toomuch	3452	Southern Victoria	1/4/03	1/4/04	View
274	Red Empira	3214	South East Victoria	1/4/03	1/4/04	View
289	Bob Mawata	3034	Southern Victoria	1/4/03	1/4/04	View
343	Harry Upanowin	3015	South East Victoria	1/4/03	1/4/04	View

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Fig. 8

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Admin Control Centre >> Add a new job >> Customer Stage

Existing Customer Name: ▾

Or enter a new customer profile below

First Name	<input type="text" value="Norman"/>
Last Name	<input type="text" value="Tate"/>
Email Address	<input type="text" value="n.tate@tatesmarina.com"/>
Organization	<input type="text" value="Tate's Marina"/>
Office Phone	<input type="text" value="02 4521 5487"/>
Fax	<input type="text" value="02 12457981"/>
Mobile	<input type="text" value="0412457854"/>
Billing Address	
Street	<input type="text" value="555 Beach Rd"/>
Suburb	<input type="text" value="Pittwater"/>
State	<input type="text" value="NSW"/>
Postcode	<input type="text" value="2154"/>
Country	<input type="text" value="Australia"/>

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Fig. 9

↙ 60

Your [Control Centre](#) >> [Add a new job](#) > Interested Parties and Location

Interested Parties

Insurance Company:
or enter a new company:

Governing body:
or enter a new governing body:

Location

Monitoring No: Easting:

OR

Longitude:
UTM: GDA99 WGS84

Region:
or enter a new region:

Postcode:

State:

Country:

Maintenance Frequency (Number of days):

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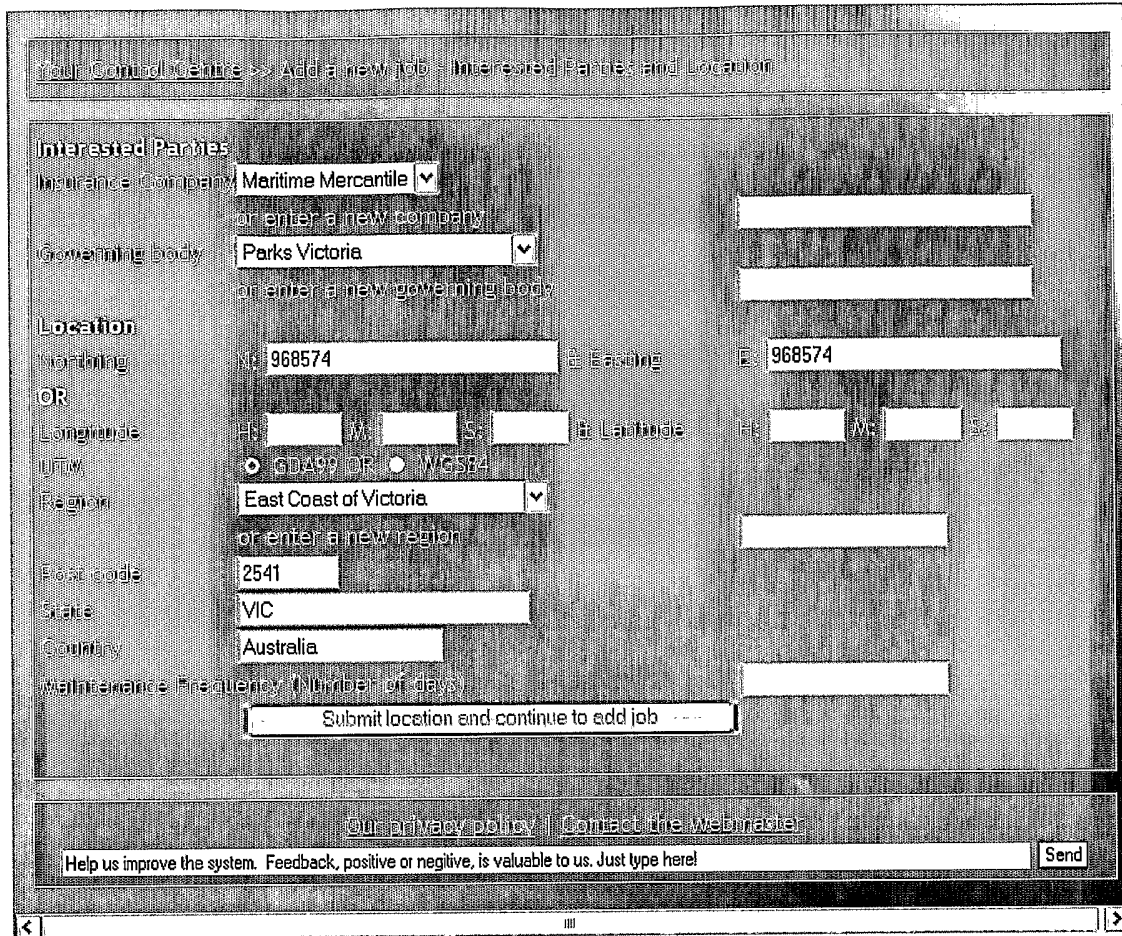


Fig. 10

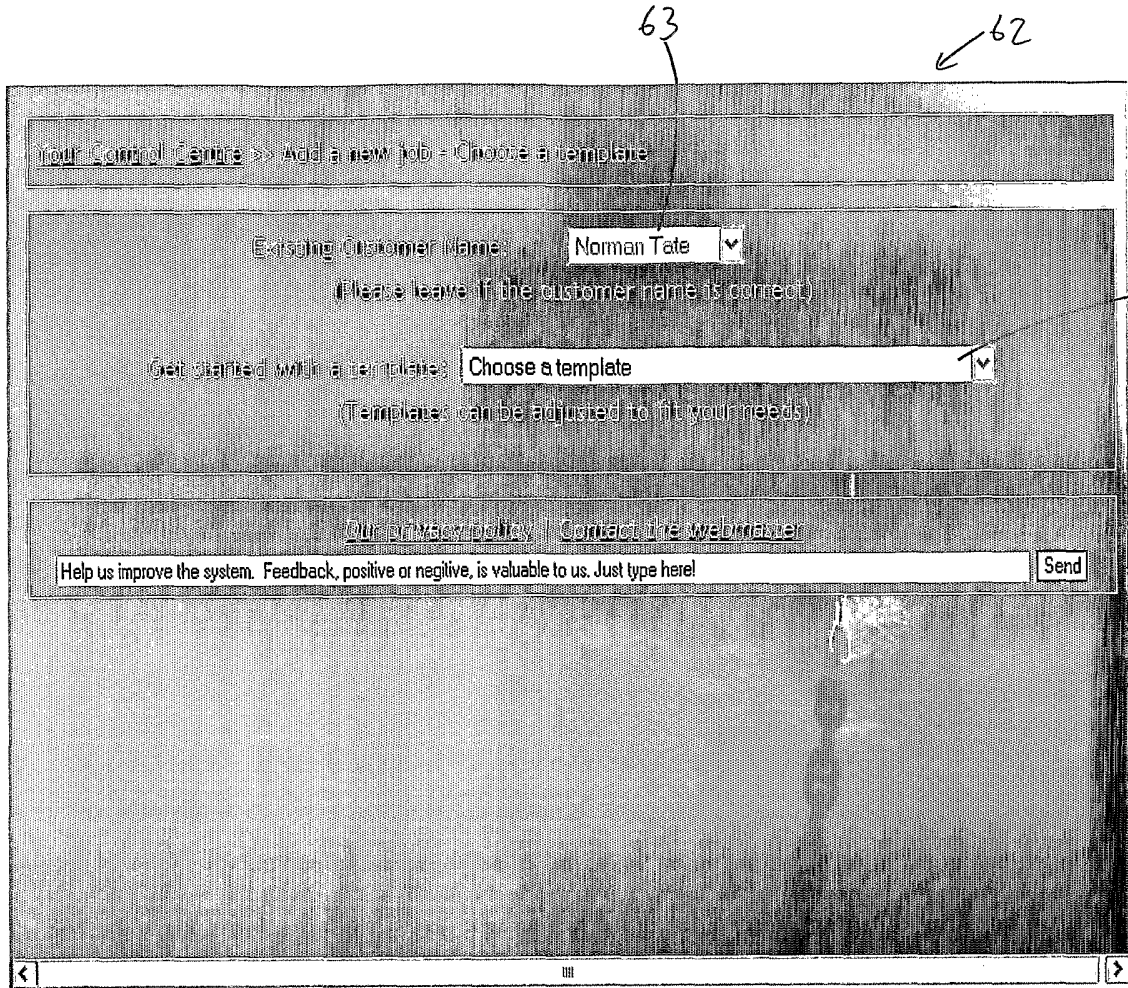


Fig. 11

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Multi Control Centre >> Add a new job >> Grouped a template

Existing Customer Name: **Norman Tate** ▼

Please choose if the equipment is to be used:

Class selected with a template: **A Class 1 EzyRider with concrete block anchor** ▼

Configure a new template below:

Part Group	Part	Qty	Add part to order list
Bridle	18mm AMT Bridle ▼	1260 mm	<input checked="" type="checkbox"/>
Bridle thimble	18mm AMT Bridle Thimble ▼		<input checked="" type="checkbox"/>
Bridle shackle	18mm AMT Bridle Shackle ▼		<input checked="" type="checkbox"/>
Rubber sock	A Class Rubber Sock ▼		<input checked="" type="checkbox"/>
Swivel	A Class Swivel ▼		<input checked="" type="checkbox"/>
Securing nut	A Class Securing Nut ▼		<input checked="" type="checkbox"/>
Locking bar	Locking Bar ▼		<input checked="" type="checkbox"/>
Rubber damper	A Class Rubber Damper ▼		<input checked="" type="checkbox"/>
Buoy shaft	A Class Buoy shaft ▼		<input checked="" type="checkbox"/>
Upper nylon bush	A Class Upper nylon bush ▼		<input checked="" type="checkbox"/>
Spreader plate	A Class Spreader plate ▼		<input checked="" type="checkbox"/>
Buoy	A Class Buoy ▼		<input checked="" type="checkbox"/>
Lower nylon bush	A Class Lower nylon bush ▼		<input checked="" type="checkbox"/>
Rubber	A Class Rubbers ▼	2 ▼	<input checked="" type="checkbox"/>
Upper pedant shackle	A Class Upper pedant shackle ▼		<input checked="" type="checkbox"/>
Subsidy buoyancy	A Class Subsidy buoyancy ▼	1 ▼	<input checked="" type="checkbox"/>
Pendant extension rope	A Class Pendant extension rope ▼		<input checked="" type="checkbox"/>
Chain	A Class Chain ▼	2550 mm	<input checked="" type="checkbox"/>
Lower pedant shackle	A Class Lower pedant shackle ▼		<input checked="" type="checkbox"/>
Concrete blocks	A Class Concrete blocks ▼	1 ▼	<input checked="" type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>
			<input type="checkbox"/>

If you have altered the template and would like to save the new configuration, enter a new template name here:

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Fig. 12

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Your Control Center >> Your material status

Material forecasted by you and/or AMT <small>Material prices are shown as applied to you</small>			Material already on order <small>with AMT</small>			Material yet to be ordered		
Name	Qty	Unit	Name	Qty	Unit	Name	Qty	Unit
Concrete blocks	14	pcs	Grille	7	meters	Concrete blocks	14	pcs
Grille	15	meters	Grille available	7	pcs	Grille	7	meters
Grille available	10	pcs	Grille available	10	pcs	Grille available	10	pcs
Grille available	24	pcs	Rubber seal	8	pcs	Grille available	8	pcs
Rubber seal	16	pcs	Swivel	10	pcs	Rubber seal	8	pcs
Swivel	17	pcs	Locking nut	10	pcs	Swivel	10	pcs
Securing nut	17	pcs	Locking bar	7	pcs	Locking nut	10	pcs
Locking bar	14	pcs	Rubber drainer	8	pcs	Locking bar	7	pcs
Rubber drainer	15	pcs	Blow torch	6	pcs	Rubber drainer	8	pcs
Blow torch	13	pcs	Upper nylon brush	10	pcs	Blow torch	6	pcs
Upper nylon brush	16	pcs	Spreader plate	7	pcs	Upper nylon brush	10	pcs
Spreader plate	16	pcs	Blow	6	pcs	Spreader plate	8	pcs
Blow	17	pcs	Lower nylon brush	7	pcs	Blow	6	pcs
Lower nylon brush	14	pcs	Rubbers	6	pcs	Lower nylon brush	7	pcs
Rubbers	15	pcs	Upper padant shackle	7	pcs	Rubbers	6	pcs
Upper padant shackle	10	pcs	Upper padant shackle	10	pcs	Upper padant shackle	7	pcs
Upper padant shackle	24	pcs	Bandant extension rope	8	meters	Upper padant shackle	10	pcs
Bandant extension rope	16	meters	Chain	42	meters	Bandant extension rope	8	meters
Chain	17	meters	Lower padant shackle	8	pcs	Chain	42	meters
Lower padant shackle	14	pcs			Lower padant shackle	8	pcs	

View your material prices from AMT

Order those materials from AMT

Material that needs to be purchased somewhere other than AMT

Concrete blocks 14 pcs

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Fig. 13

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WELCOME TO THE ADVANCED Mining Technology's Job Database Registration
Please register by completing the form below:

First Name	Steven
Last Name	Fisher
Email Address	jfisher@env.vic.gov.au
Organization	Dept. of Environment
Office Phone	03 95849584
Fax	03 95849584
Mobile	0410 254 032
Mail Address	
Street	44 Ocean Blvd
Suburb	Oceanica
State	VIC
Postcode	3214
Country	Australia
Preferred Region (if applicable)	Choose a region
Other Region (if applicable)	Choose another region
Password (8-12 characters, alphanumeric, with one lower case character)
Repeat Password

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Fig. 14

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Local Council Centre >> All Jobs Summary

Mooring ID	Owner Name	Postcode	Region	Last Service	Next Service	View Card
38	Jack Fisher	3452	Southern Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
284	Martin Fellers	3274	Southern Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
286	Barry Angler	3034	Southern Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
343	Ted Buller	3015	South East Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
38	Bill Tommer	3452	Southern Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
284	Red Emma	3274	South East Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
286	Bob Kazwala	3034	Southern Victoria	17/4/03	17/4/04	<input type="button" value="View"/> 46
343	Henry Upmawin	3015	South East Victoria	17/2/03	16/2/04	<input type="button" value="View"/> 46

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Fig. 15

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Home > Contact Us > View All Jobs > Mooring ID 38

Mooring ID	38	Date	01/03/04		
Mooring contractor	Marine Contractors	Contact	Northing		
Insurance Company	Marine Merchants Pty Ltd	Contact	DNM		
Owner	Jack Fisher	Contact	Postcode		
Region	Southwest Victoria	Maintenance frequency	30 Days		
Part Name (Click on part name for description)	Last Measure mm	Expected Measure mm	Replace size	Expected Wear %	Expected Reaming Reaming
Beak	11 mm	10.5 mm	10 mm	35	No
Beak - subbit	200 mm	195 mm	190 mm	41	No
Beak - handle	42 mm	37 mm	32 mm	42	No
Roller post	70 mm	52 mm	44 mm	67	No
Pinnet	15 mm	14 mm	14 mm	6.4	No
Retaining pin	12 mm	11.5 mm	11 mm	26	No
Locking pin	23 mm	20 mm	20 mm	55	No
Roller socket	12 mm	11 mm	10 mm	41	No
Pin - 3/16"	12 mm	10 mm	10 mm	55	No
Roller - roller block	14 mm	13 mm	12 mm	24	No
Pin - 1/4" pin	15 mm	14 mm	13 mm	35	No
Pin - 1/2"	390 mm	377 mm	365 mm	15	No
Roller - roller block	14 mm	12 mm	12 mm	24	No
Roller - roller block	420 mm	400 mm	390 mm	11	No
Roller - roller block	15 mm	15 mm	12 mm	24	No
Roller - roller block	250 mm	235 mm	225 mm	31	No
Roller - roller block	12 mm	11.5 mm	11 mm	31	No
Pin - 1/4"	11 mm	10 mm	10 mm	35	No
Roller - roller block	12 mm	11 mm	10 mm	15	No
Roller - roller block	12 mm	11 mm	9 mm	15	No

CA Inspection Notes
There appeared to be excessive wear around the lower stocks. Probably due to vessel rolling.

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Fig. 16

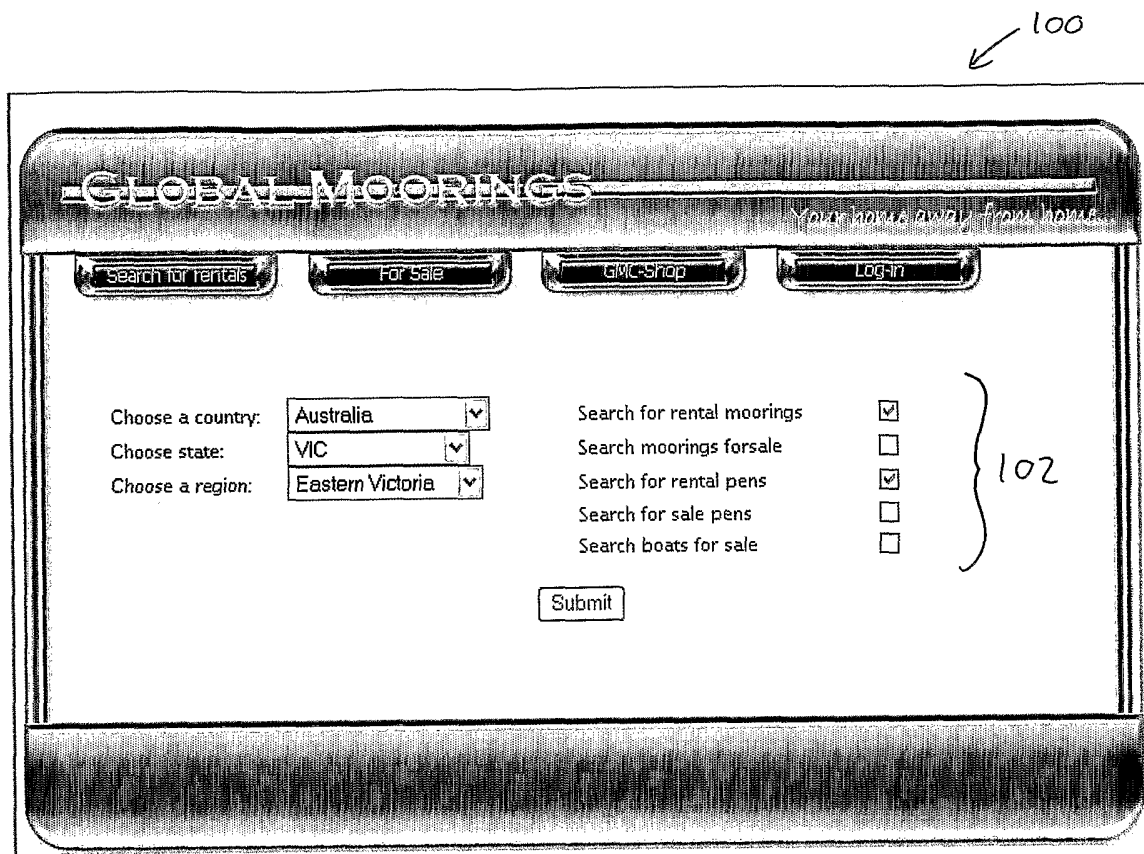


Fig. 17

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GLOBAL MOORINGS

You make every day count

Search for rentalsFor SaleGMC-ShopLog-in

Which days would you like to book for?
Please tick the boxes.

April 2004			Choose the days and go to another month ▼			
Sun	Mon	Tue	Wed	Thu	Fri	Sat
March 28	29	30	31	1	2	3
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	5	6	7	8	9	10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	12	13	14	15	16	17
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	19	20	21	22	23	24
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	26	27	28	29	30	May 1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Fig. 18

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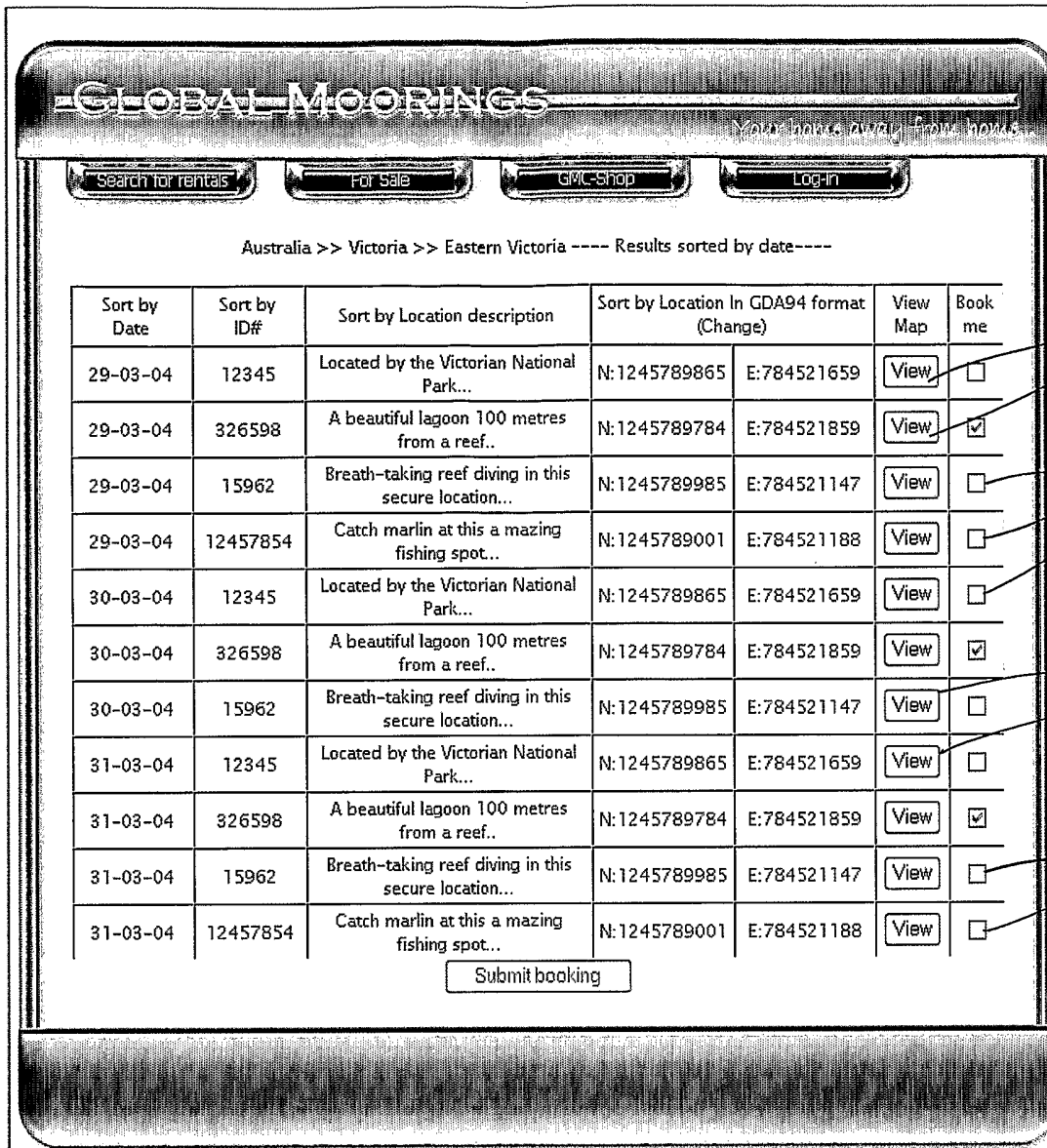


Fig. 19

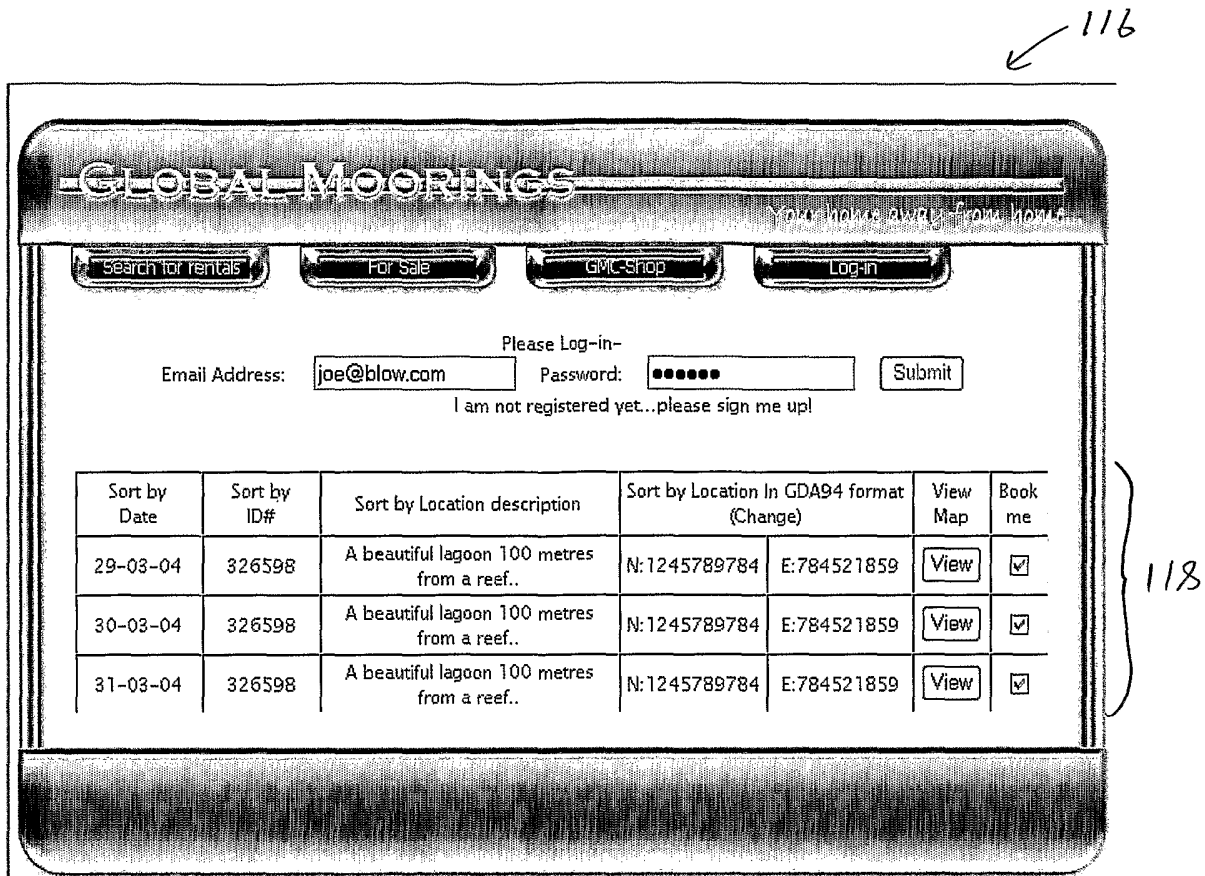


Fig. 20

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2005/000554

A. CLASSIFICATION OF SUBJECT MATTER Int. Cl. ⁷ : G06F 19/00, 17/60 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI, USPTO, PCT, internet (mooring, berth, marina, boat slip, dock, boat, vessel, parking, booking, reservation, IPC: G06F, internet, online, database, etc.)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2002/025973 A1 (TELEFONAKTIEBOLAGET LM ERICSSON), 28 March 2002 the whole document (in particular, page 8, lines 4-15)	1-2, 9-10, 12-14, 20-21, 23-24
A	US 2002/0029164 A1 (SUGAR et al), 7 March 2002 the whole document.	1-26
A	WO 2002/097736 A1 (SCHLUMBERGER SYSTEMES), 5 December 2002 the whole document	1-26
A	<i>marinalife</i> website, as archived January 2004 http://web.archive.org/web/20040116072025/ www.marinalife.com/locator/locator_slip_how_to.cfm	1-26
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family	
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 4 July 2005	Date of mailing of the international search report 8 JUL 2005	
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929	Authorized officer MATTHEW HOLLINGWORTH Telephone No : (02) 6283 2024	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2005/000554

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, E	WO 2005/050532 A2 (CHASE), 2 June 2005 the whole document	1-26
A, P	US 2004/0153222 A1 (PUCHKOFF), 5 August 2004 the whole document	1-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2005/000554

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
WO	0225973	AU	23545/02	GB	2366953		
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Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX