Literature 1).

Citation List

Patent Literature

[0004] Patent Literature 1: JP 2019-197396A

Summary

Technical Problem

[0005] However, in the conventional technology, there is no case where the operation of a travel means is controlled in accordance with a task during travel with the travel means, and it has been difficult to improve the quality of the task during travel.

[0006] Thus, embodiments of the present disclosure propose an information processing apparatus, an information processing method, and a storage medium capable of improving the quality of a task during travel with a travel means.

Solution to Problem

[0007] According to a first aspect of the present invention, there is provided a first information processing apparatus, including: a central processing unit (CPU) configured to: set a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary; determine, based on the departure point, the arrival point, and the plurality of tasks, a first itinerary plan that includes: at least one travel means from the departure point to the arrival point; and a first task for execution in the travel with the at least one travel means, wherein the plurality of tasks includes the first task; predict a result that indicates a completion of the first task before arrival of the at least one travel means at a target point, wherein the first task is performed by a user in execution of the first itinerary plan, and the target point corresponds to an end location of the first task; change the

first itinerary plan based on the predicted result of the completion of the first task; and control the at least one travel means based on the changed first itinerary plan.

[0007a] According to a second aspect of the present invention, there is provided a information processing method, including: setting, by a central processing unit (CPU), a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary; determining, by the CPU, an itinerary plan based on the departure point, the arrival point, and the plurality of tasks, wherein the itinerary plan includes: at least one travel means from the departure point to the arrival point; and a task for execution in the travel with the at least one travel means, wherein the plurality of tasks includes the task; predicting, by the CPU, a result that indicates a completion of the task before arrival of the at least one travel means at a target point, wherein the task is performed by a user in execution of the itinerary plan, and the target point corresponds to an end location of the task; changing, by the CPU, the itinerary plan based on the predicted result of the completion of the task; and controlling, by the CPU, the at least one travel means based on the changed itinerary plan.

[0007b] According to a third aspect of the present invention, there is provided a non-transitory computer-readable medium having stored thereon, computer-executable instructions which, when executed by a computer, cause the computer to execute operations, the operations including: set a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary; determine, based on the departure point, the arrival point, and the plurality of tasks, a itinerary plan that includes: at least one travel means from the departure point to the arrival point; and a task for execution in the travel with the at least one travel means, wherein the plurality of tasks

includes the task; predict a result that indicates a completion of the task before arrival of the at least one travel means at a target point, wherein the task is performed by a user in execution of the itinerary plan, and the target point corresponds to an end location of the task; change the itinerary plan based on the predicted result of the completion of the task; and control the at least one travel means based on the changed itinerary plan.

Advantageous Effects of Invention

[0008] According to embodiments of the present disclosure, the quality of a task during travel with a travel means can be improved.

Brief Description of Drawings

[0009] FIG. 1 is a diagram illustrating an example of a network configuration of a system according to a first embodiment.

FIG. 2 is a diagram illustrating an example of various services cooperating with an information processing apparatus according to the first embodiment.

FIG. 3 is a diagram illustrating an example of a block configuration of the information processing apparatus according to the first embodiment.

FIG. 4 is a diagram illustrating an example of a new itinerary creation screen of an application of the information processing apparatus according to the first embodiment.

FIG. 5 is a diagram illustrating an example of a point/time input screen of the application of the information processing apparatus according to the first embodiment.

FIG. 6 is a diagram illustrating an example of a task setting screen of the application of the information processing apparatus according to the first embodiment.

FIG. 7 is a diagram illustrating an example of requirements corresponding to tasks.

FIG. 8 is a diagram describing an operation of

Claims

1. A first information processing apparatus, comprising:

a central processing unit (CPU) configured to:

set a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary;

determine, based on the departure point, the arrival point, and the plurality of tasks, a first itinerary plan that includes:

at least one travel means from the departure point to the arrival point; and

a first task for execution in the travel with the at least one travel means, wherein the plurality of tasks includes the first task;

predict a result that indicates a completion of the first task before arrival of the at least one travel means at a target point, wherein

the first task is performed by a user in execution of the first itinerary plan, and

the target point corresponds to an end location of the first task;

change the first itinerary plan based on the predicted result of the completion of the first task; and

control the at least one travel means based on the changed first itinerary plan.

2. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

acquire the departure point and the arrival point of the at least one travel means from the itinerary;

set, based on the acquired departure point and the acquired arrival point, a plurality of candidate itineraries that includes the set plurality of candidate itineraries; and

determine, as the first itinerary plan, a candidate itinerary from the set plurality of candidate itineraries.

3. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

determine that the user performs the first task in the travel with the at least one travel means, wherein the at least one travel means corresponds to an automatic driving vehicle; and

generate a request to change a speed of the automatic driving vehicle based on the predicted result and the determination that the user performs the first task.

4. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

determine that the user performs the first task in the travel with the at least one travel means, wherein the at least one travel means corresponds to a vehicle that is driven by a driver; and

instruct the driver to change a speed of the vehicle based on the predicted result and the determination that the user performs the first task.

5. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

determine a progress of the first task;

decrease a target speed of the at least one travel means based on the determined progress behind a schedule of the first itinerary plan;

increase the target speed of the at least one travel means based on the determined progress ahead of the schedule of the first itinerary plan;

determine the target speed of the at least one travel means; and

perform a processing to change a speed of the at least one travel means based on the determined target speed in a specific speed range.

6. The first information processing apparatus according to claim 5, wherein the CPU is further configured to:

create, based on the determined target speed is outside the specific speed range, a plurality of measure proposals to change the first task;

select a measure proposal from the created plurality of measure proposals; and

change the first itinerary plan based on the selected measure proposal, wherein the changed first itinerary plan includes the selected measure proposal.

7. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

receive, from a service that presents a plurality of jobs, a list of jobs based on the departure point and the arrival point, wherein the list of jobs is performable by the user in the itinerary, and the plurality of jobs includes the list of jobs;

select a job from the list of jobs; and

determine the first itinerary plan further based on the selected job, wherein the determined first itinerary plan includes the selected job.

8. The first information processing apparatus according to claim 2, wherein the CPU is further configured to:

acquire, from a service, traffic information of the first itinerary plan based on the departure point and the arrival point; and

predict, further based on the acquired traffic information, the result that indicates the completion of the

first task before arrival of the at least one travel means at the target point.

9. The first information processing apparatus according to claim 2, wherein the CPU is further configured to:

define a requirement corresponding to the plurality of tasks, and

receive the plurality of candidate itineraries further based on the departure point, the arrival point, and the defined requirement.

10. The first information processing apparatus according to claim 9, wherein the CPU is further configured to:

define, as the requirement, a vehicle type requirement associated with the at least one travel means;
receive, from a service, a list of vehicle types that satisfies the vehicle type requirement; and

incorporate the received list of vehicle types in the set plurality of candidate itineraries.

11. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

receive, from a service, a list of insurances based on the first itinerary plan, wherein the list of insurances is applicable to the first itinerary plan;

select an insurance from the list of insurances; and

change the first itinerary plan based on the selected insurance, wherein the changed first itinerary plan includes the selected insurance.

12. The first information processing apparatus according to claim 1, wherein, the CPU is further configured to:

determine that the user selects a task to view and listen to a content as the first task;

receive a list of content from a service;

select the content from the list of content; and

set, as the first task, a viewing task and a listening task of the selected content.

13. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

determine that the at least one travel means is in a vicinity of an intermediate point, wherein the intermediate point is corresponding to a second task after a completion of the first task in the first itinerary plan; and

request, based on the determination that the at least one travel means is in the vicinity of the intermediate point, a service corresponding to the second task.

14. The first information processing apparatus according to claim 1, wherein the CPU is further configured to:

control a transmission of the first itinerary plan to a second information processing apparatus;

control a reception of a second itinerary plan executed by the second information processing apparatus; and

control, based on the transmission of the first itinerary plan and the reception of the second itinerary plan, a synchronized arrival of each of the first information processing apparatus and the second information processing apparatus at a common arrival point.

15. An information processing method, comprising:

setting, by a central processing unit (CPU), a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary;

determining, by the CPU, an itinerary plan based on the departure point, the arrival point, and the plurality of tasks, wherein the itinerary plan includes:

at least one travel means from the departure point to the arrival point; and

a task for execution in the travel with the at least one travel means, wherein the plurality of tasks includes the task;

predicting, by the CPU, a result that indicates a completion of the task before arrival of the at least one travel means at a target point, wherein

the task is performed by a user in execution of the itinerary plan, and

the target point corresponds to an end location of the task;

changing, by the CPU, the itinerary plan based on the predicted result of the completion of the task; and

controlling, by the CPU, the at least one travel means based on the changed itinerary plan.

16. A non-transitory computer-readable medium having stored thereon, computer-executable instructions which, when executed by a computer, cause the computer to execute operations, the operations comprising:

set a plurality of tasks for execution in a travel from a departure point to an arrival point of an itinerary;

determine, based on the departure point, the arrival point, and the plurality of tasks, a itinerary plan that includes:

at least one travel means from the departure point to the arrival point; and

a task for execution in the travel with the at least one travel means, wherein the plurality of tasks includes the task;

predict a result that indicates a completion of the task before arrival of the at least one travel means at a target point, wherein

the task is performed by a user in execution of the itinerary plan, and

the target point corresponds to an end location of the task;

change the itinerary plan based on the predicted result of the completion of the task; and

control the at least one travel means based on the changed itinerary plan.