

WHAT IS CLAIMED IS:

1. A method comprising:

receiving, at data processing hardware of a backend service, patient-generated event data over a network from a patient device associated with a patient having an active digital therapy prescription prescribed by a supervising healthcare professional (HCP), the active digital therapy prescription including interactive digital therapy content for treating an underlying disease or disorder, the patient-generated event data encrypted by the patient device and comprising at least one timestamped event related to the active digital therapy prescription;

in response to receiving the patient-generated event data:

decrypting, by the data processing hardware, the patient-generated event data;

anonymizing, by the data processing hardware, the patient-generated event data by removing any patient identifying information from the patient-generated event data; and

storing, by the data processing hardware, the anonymized patient-generated event data on memory hardware of the backend service in communication with the data processing hardware;

receiving, at the data processing hardware, a patient record request over the network from a HCP system associated with the HCP supervising the patient, wherein the patient record request requests the patient-generated event data and comprises an authentication token;

in response to receiving the patient record request:

retrieving, by the data processing hardware, the anonymized patient-generated event data from the memory hardware using the authentication token; and

encrypting, by the data processing hardware, the patient-generated event data; and

transmitting, by the data processing hardware, the encrypted patient-generated event data over the network to the HCP system, the encrypted patient-generated event data when received by the HCP system causing the HCP system to:

decrypt the patient-generated event data;

present the patient-generated event data in a patient dashboard screen of a display of the HCP system; and present a notification related to the at least one timestamped event on the HCP system, the notification including one of a visual alert or an audible alert.

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2. The method of claim 1, further comprising, prior to receiving the patient-generated event data:

receiving, at the data processing hardware, a registration request from the patient device, the registration request comprising an access code and requesting the patient to register the patient device with a patient application for accessing the digital therapy prescription;

determining, by the data processing hardware, whether access code is valid; and when the access code is valid, prompting, by the data processing hardware, the patient to register the patient device with the patient application.

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3. The method of claim 2, further comprising:

receiving, at the data processing hardware, an add patient input from the HCP system, the add patient input enrolling the patient for access to the digital therapy prescription for treating the underlying disease or disorder, the add patient input comprising an email address of the patient; and

transmitting an enrollment verification email from the data processing hardware to the patient device using the email address of the patient, the enrollment verification email comprising the access code and instructing the patient to input the access code to transmit the registration request.

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4. The method of claim 1, wherein the patient device executes a patient application configured to:

detect when a patient-generated event related to the active digital therapy prescription occurs;

determine whether network connectivity between the patient device and the backend service is available;

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when network connectivity is available, instruct the patient device to transmit the patient-generated event over the network to the data processing hardware, the patient-generated event timestamped and comprising the patient-generated event data.

5        5.        The method of claim 4, wherein the patient application is configured to, when the network connectivity is unavailable:

             timestamp the patient-generated event;

             store the patient-generated event in an encrypted queue of memory hardware of the patient device; and

10            transmit the patient-generated event from the encrypted queue to the backend service when the network connectivity is available.

6.        The method of claim 1, wherein retrieving the anonymized patient-generated event data from the memory hardware using the authentication token comprises  
15        identifying the anonymized patient-generated event data by matching cryptographic hashes associated with the authentication token and the anonymized patient-generated event data.

7.        The method of claim 1, wherein the backend service operates within virtualized  
20        containers providing a secure execution environment for the backend service.

8.        The method of claim 1, further comprising:  
             receiving, at the data processing hardware, a therapy content request from the patient device, the therapy content request requesting the therapy content related to the  
25        digital therapy prescription of the patient; and  
             retrieving, by the data processing hardware, the requested therapy content related to the digital therapy prescription of the patient from the memory hardware;  
             transmitting, by the data processing hardware, the therapy content to the patient device, the therapy content when received by the patient device causing a patient

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application executing on the patient device visually and/or audibly output the therapy content from the patient device.

9. The method of claim 8, wherein the therapy content comprises a learning module that includes a series of therapy lessons the patient has to complete during a duration of the digital therapy prescription, the one or more therapy lessons corresponding to a cognitive behavioral therapy learning portion of the digital therapy prescription for treating the underlying disease or disorder.

10. The method of claim 9, wherein the series of therapy lessons are arranged in an ordered list that must be completed by the patient in order one at a time.

11. The method of claim 9, wherein at least one of the therapy lessons comprises a corresponding proficiency test related to the therapy lesson that the patient must successfully pass in order to complete the corresponding therapy lesson.

12. The method of claim 9, wherein the therapy content further comprises audio and/or video files associated with the learning module.

13. The method of claim 1, wherein the patient-generated event data comprises a drug screen result for the patient indicating whether or not the patient used a substance.

14. The method of claim 1, wherein the patient-generated event data comprises a self-reported update indicating whether or not the patient used a particular substance.

15. The method of claim 1, wherein the patient-generated event data comprises a log in event to a patient application executing on the patient device, the patient application configured to initiate communicates over the network between patient device and the backend service and provide access to the digital therapy prescription.

16. A system comprising:

data processing hardware of a backend service;

memory hardware of the backend service and in communication with the data processing hardware and storing instructions that when executed by the data processing hardware cause the data processing hardware to perform operations comprising:

receiving patient-generated event data over a network from a patient device associated with a patient having an active digital therapy prescription prescribed by a supervising healthcare professional (HCP), the active digital therapy prescription including interactive digital therapy content for treating an underlying disease or disorder, the patient-generated event data encrypted by the patient device and comprising at least one timestamped event related to the active digital therapy prescription;

in response to receiving the patient-generated event data:

decrypting the patient-generated event data;

anonymizing the patient-generated event data by removing any patient identifying information from the patient-generated event data; and

storing the anonymized patient-generated event data on the memory hardware;

receiving a patient record request over the network from a HCP system associated with the HCP supervising the patient, wherein the patient record request requests the patient-generated event data and comprises an authentication token;

in response to receiving the patient record request:

retrieving the anonymized patient-generated event data from the memory hardware using the authentication token; and

encrypting the patient-generated event data; and

transmitting the encrypted patient-generated event data over the network to the HCP system, the encrypted patient-generated event data when received by the HCP system causing the HCP system to:

decrypt the patient-generated event data;

present the patient-generated event data in a patient dashboard screen of a display of the HCP system; and present a notification related to the at least one timestamped event on the HCP system, the notification including one of a visual alert or an audible alert.

17. The system of claim 16, wherein the operations further comprise, prior to receiving the patient-generated event data:

receiving a registration request from the patient device, the registration request  
5 comprising an access code and requesting the patient to register the patient device with a patient application for accessing the digital therapy prescription;  
determining whether access code is valid; and  
when the access code is valid, prompting the patient to register the patient device with the patient application.

18. The system of claim 17, wherein the operations further comprise:

receiving an add patient input from the HCP system, the add patient input enrolling the patient for access to the digital therapy prescription for treating the underlying disease or disorder, the add patient input comprising an email address of the  
15 patient; and

transmitting an enrollment verification email from the data processing hardware to the patient device using the email address of the patient, the enrollment verification email comprising the access code and instructing the patient to input the access code to transmit the registration request.

19. The system of claim 16, wherein the patient device executes a patient application configured to:

detect when a patient-generated event related to the active digital therapy prescription occurs;

25 determine whether network connectivity between the patient device and the backend service is available;

when network connectively is available, instruct the patient device to transmit the patient-generated event over the network to the data processing hardware, the patient-generated event timestamped and comprising the patient-generated event data.

20. The system of claim 19, wherein the patient application is configured to, when the network connectivity is unavailable:

timestamp the patient-generated event;  
store the patient-generated event in an encrypted queue of memory hardware of  
5 the patient device; and  
transmit the patient-generated event from the encrypted queue to the backend service when the network connectively is available.

21. The system of claim 16, wherein retrieving the anonymized patient-generated  
10 event data from the memory hardware using the authentication token comprises  
identifying the anonymized patient-generated event data by matching cryptographic  
hashes associated with the authentication token and the anonymized patient-generated  
event data.

22. The system of claim 16, wherein the backend service operates within virtualized  
15 containers providing a secure execution environment for the backend service.

23. The system of claim 16, wherein the operations further comprise:  
receiving a therapy content request from the patient device, the therapy content  
20 request requesting the therapy content related to the digital therapy prescription of the  
patient; and  
retrieving the requested therapy content related to the digital therapy prescription  
of the patient from the memory hardware;  
transmitting the therapy content to the patient device, the therapy content when  
25 received by the patient device causing a patient application executing on the patient  
device visually and/or audibly output the therapy content from the patient device.

24. The system of claim 23, wherein the therapy content comprises a learning module  
that includes a series of therapy lessons the patient has to complete during a duration of  
30 the digital therapy prescription, the one or more therapy lessons corresponding to a

cognitive behavioral therapy learning portion of the digital therapy prescription for treating the underlying disease or disorder.

25. The system of claim 24, wherein the series of therapy lessons are arranged in an ordered list that must be completed by the patient in order one at a time.

26. The system of claim 24, wherein at least one of the therapy lessons comprises a corresponding proficiency test related to the therapy lesson that the patient must successfully pass in order to complete the corresponding therapy lesson.

27. The system of claim 24, wherein the therapy content further comprises audio and/or video files associated with the learning module.

28. The system of claim 16, wherein the patient-generated event data comprises a drug screen result for the patient indicating whether or not the patient used a substance.

29. The system of claim 16, wherein the patient-generated event data comprises a self-reported update indicating whether or not the patient used a particular substance.

30. The system of claim 16, wherein the patient-generated event data comprises a log in event to a patient application executing on the patient device, the patient application configured to initiate communicates over the network between patient device and the backend service and provide access to the digital therapy prescription.