



Oracle APEX

アイデアからアプリケーションへ：光の速度で実現する環境

—
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日本オラクル株式会社

2020年12月17日

アジェンダ

1. Oracle APEXの紹介

2. デモンストレーション

3. 事例の紹介

Oracle APEXの紹介

Oracle APEX: 業界で最も利用されている 企業向けローコード・プラットフォーム

・顧客	5万, 127カ国
・パートナー	150以上
・開発者	50万
・アプリケーション	220万以上
・1日当たりの新規アプリ	3000以上
・1日当たりの新規インストール	数百



ローコードとスクラッチ開発の比較

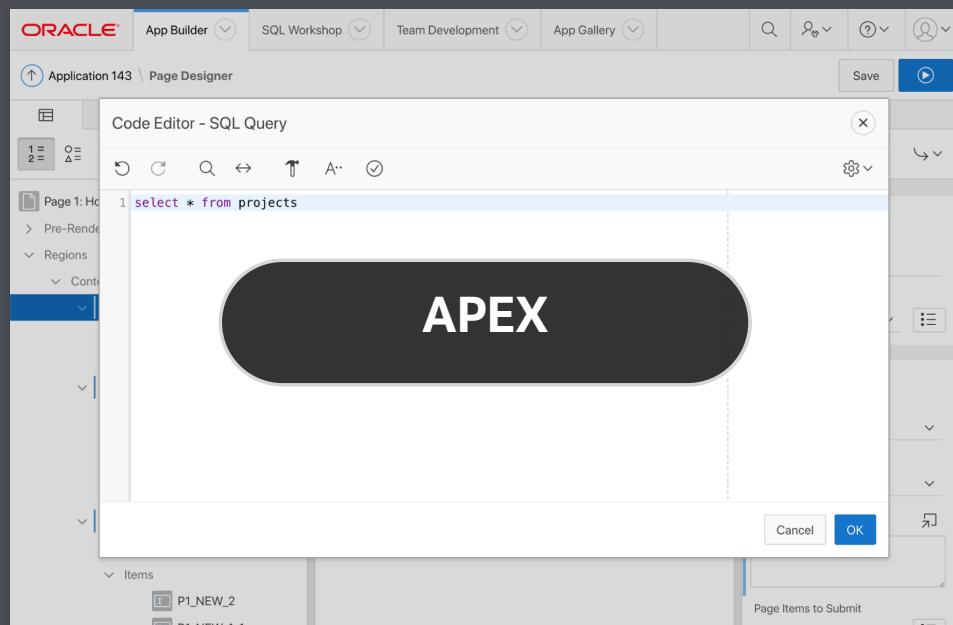
- “10 times faster than traditional methods”
Forrester
- “By 2024, low-code application development will be responsible for more than 65% of application development activity.”
Gartner
- “...compelling productivity gains for professional and citizen development, as well as speed-of-delivery benefits.”
Gartner

ロードコードの利点

- ・リリースまでの期間短縮
- ・高い品質とアプリケーションの一貫性
- ・習得が容易
- ・低い開発・運用コスト
- ・より高い信頼性 – 少ない不具合
- ・柔軟性 – 改変が容易

高い生産性

ローコード



スクラッチ開発

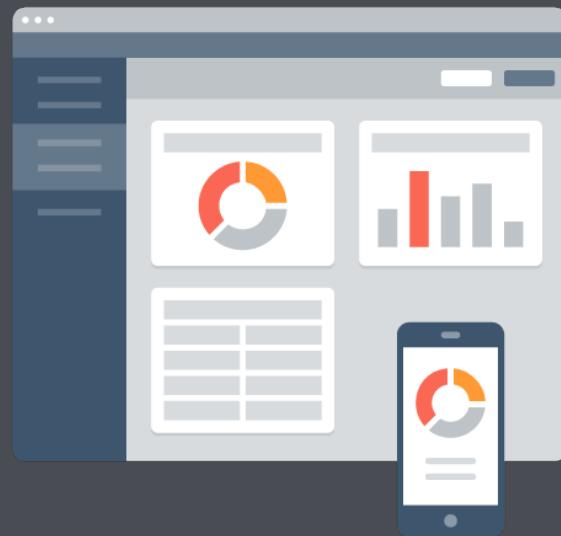
A screenshot of a code editor displaying a block of JavaScript code. The code is a script that handles the rendering of a table from a REST API. It includes logic for cloning headers, appending them to a table body, and handling errors if no container is provided. The 'window.onload' event triggers a function to initialize a 'RestTable' object with specific configuration parameters. The word 'JavaScript' is overlaid in a large, semi-transparent white circle on the right side of the code editor. The code editor has syntax highlighting and line numbers.

比較

20倍の速さ、100分の1のコード

Oracle APEX

ローコード・アプリケーション開発フレームワーク



デスクトップ向けと
モバイル向けの
Webアプリ開発

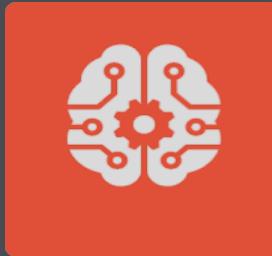


データベースにある
データの
可視化と保守

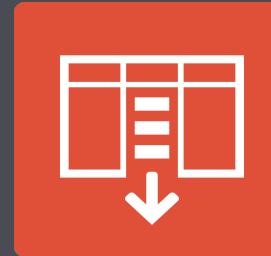


SQLのスキルや
データベースが提供
する能力を活用

Oracle Databaseの機能を活用



Machine
Learning



Real-Time
Analytics



IoT



Social Graph
Analysis



Documents



Spatial Processing



Blockchain

Oracle APEXの代表的な用途

- ・スプレッドシートの置き換え
- ・オポチュニстティック・アプリケーション
- ・外部とのデータ共有
- ・デジタル・トランスフォーメーション(DX)
- ・Oracle Formsの置き換え / アプリケーション資産のモダナイズ
- ・ERP / SaaS レポーティング & 拡張

Oracle APEX Everywhere

Autonomous Databaseを含むすべてのOracle Database上で利用可能

- ・追加コストなし、サポート対象の機能
 - ・すべてのエディション、バージョンでサポート
- ・開発者数、エンド・ユーザー数、アプリケーション数で課金しない
- ・Oracle Cloudのすべてのデータベース・サービスで利用可能
- ・オンプレミス, Oracle Cloud, 他社クラウドで利用可能

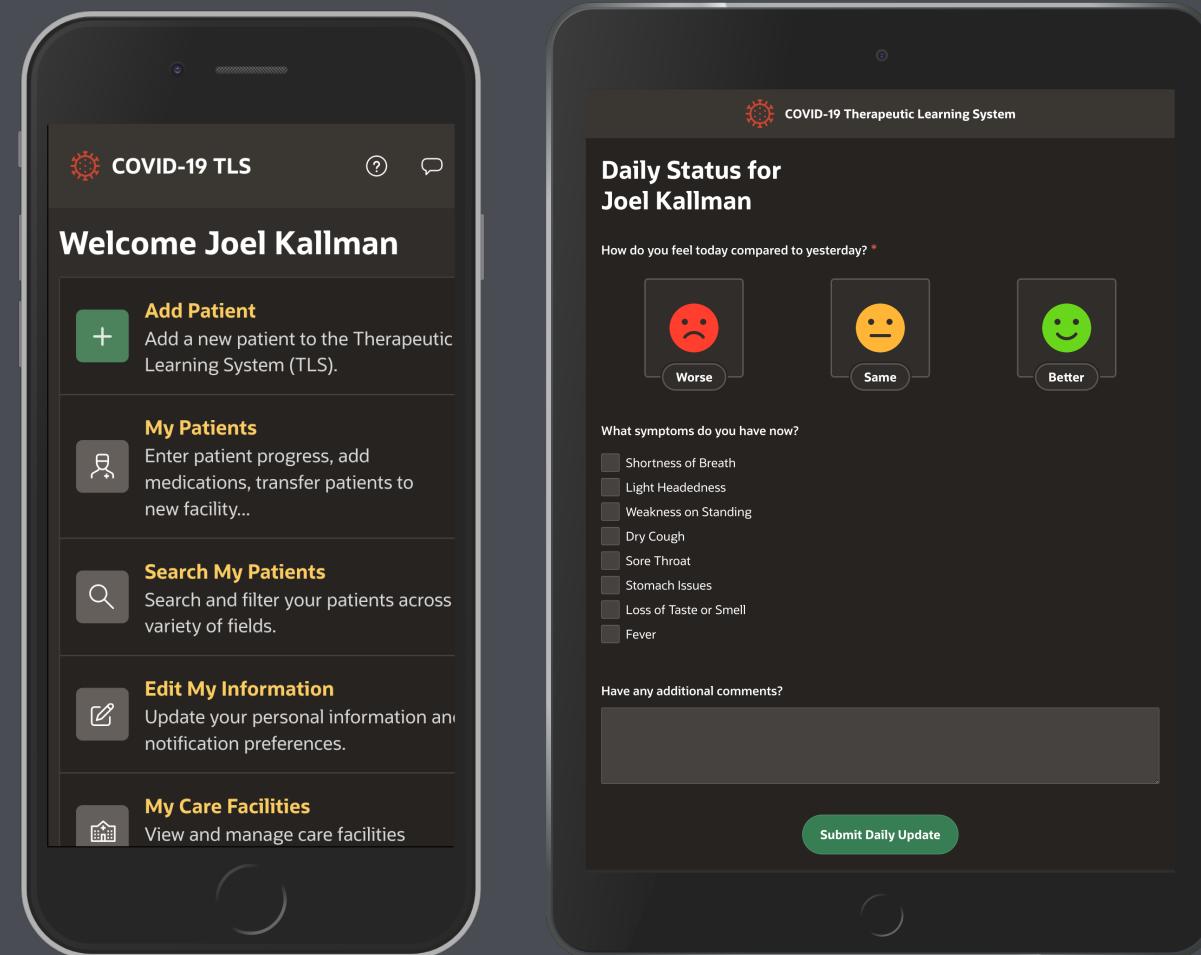


デモンストレーション

事例の紹介

COVID-19 Therapeutic Learning System

- COVID-19の患者にたいして、実際に施された治療に関するデータを収集します。
- COVID-19の患者への治療の全体的な効果を迅速に把握します。
- 2週間弱で開発され、運用が開始されました。
- 利用者登録は医師が行い、患者の追加は医師によって行われます。
- 患者は毎日、電子メールまたはSMSによる通知を受け取り、容体を更新します。



EDITION: US ▾

ZDNet  5G IOT CLOUD AI SECURITY MORE ▾ NEWSLETTERS ALL WRITERS 

PART OF A ZDNET SPECIAL FEATURE: **CORONAVIRUS: BUSINESS AND TECHNOLOGY IN A PANDEMIC**

Launching Oracle's COVID-19 Therapeutic app: The back story

Oracle's APEX application development framework was an unsung hero in enabling a drug treatment reporting app to make it from design to full national rollout in the US in barely two weeks. Here's how it happened.

 By [Tony Baer \(dblInsight\)](#) for [Big on Data](#)
Topic: April 10, 2020 -- 12:00 GMT (05:00 PDT) [Coronavirus: Business and technology in a pandemic](#)





The Back Back Story

Shakeeb Rahman - Inventor of Universal Theme



March 2020

< Today >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
8	9	10	11	12	13	14
15	16	17	18 Datamodel	19 Initial App UI First Demo	20 UI + DML Changes	21 Testing Begins
22 First Design Review 9 Apps Total	23 Go Dark Mode	24 Design Review Meeti...	25 Refine and Test	26 Refine and Test	27 Refine and Test	28 Refine and Test
29 Refine and Test	30 Launch	31	Apr 1	2	3	4
5	6	7	8	9	10	11



Day Zero

The screenshot shows the Oracle APEX interface with the SQL Workshop module open. The top navigation bar includes tabs for APEX, App Builder, SQL Workshop (selected), Team Development, and App Gallery. The Utilities section is selected under SQL Workshop. The main area displays a generated SQL script with line numbers on the left.

Generated SQL Script:

```
1 -- drop objects
2 drop table physician cascade constraints;
3 drop table clinicians cascade constraints;
4 drop table hospitals cascade constraints;
5 drop table medication cascade constraints;
6 drop table patients cascade constraints;
7 drop table prescriptions cascade constraints;
8 drop table status_updates cascade constraints;
9
10 -- create tables
11 create table physician (
12     id                                         number not null constraint physician_id_pk primary key,
13     name                                       varchar2(255),
14     npi                                         number,
15     note                                        varchar2(4000),
16     location                                     varchar2(4000),
17     email                                         varchar2(255),
18     phone                                         varchar2(30),
19     mobile                                        varchar2(4000),
20     assistant_name                                varchar2(255),
21     assistant_phone                               varchar2(255),
22     created                                       timestamp with local time zone not null,
23     created_by                                    varchar2(255) not null,
24     updated                                       timestamp with local time zone not null,
25     updated_by                                    varchar2(255) not null
26 )
27 ;
28
29 create table clinicians (
30     id                                         number not null constraint clinicians_id_pk primary key,
31     name                                       varchar2(255),
```

Left Panel (Quick SQL):

```
94 patient_id
95 clinician_id
96 physician_id
97 prescribed_on /date
98 dosage
99 frequency
100 duration_days
101 notes
102
103 status_updates
104 patient_id
105 medication_id
106 reported_by /check self, clinician, physician
107 clinician_id
108 physician_id
109 health_rating number
110 fever_yn
111 temperature number
112 shortness_of_breath_yn
113 light_headedness_yn
114 weakness_on_standing_yn
115 ventilator_y
116 blood_pressure
117 vs_prev_day /check better, worse, same
118 notes
119 noted_on date
120
121
122
123
124
```

Bottom Navigation:

- shakeeb.rahman@oracle.com
- covid19
- en
- Copyright © 1999, 2020, Oracle and/or its affiliates. All rights reserved.
- Application Express 20.1.0.00.11

Day 1

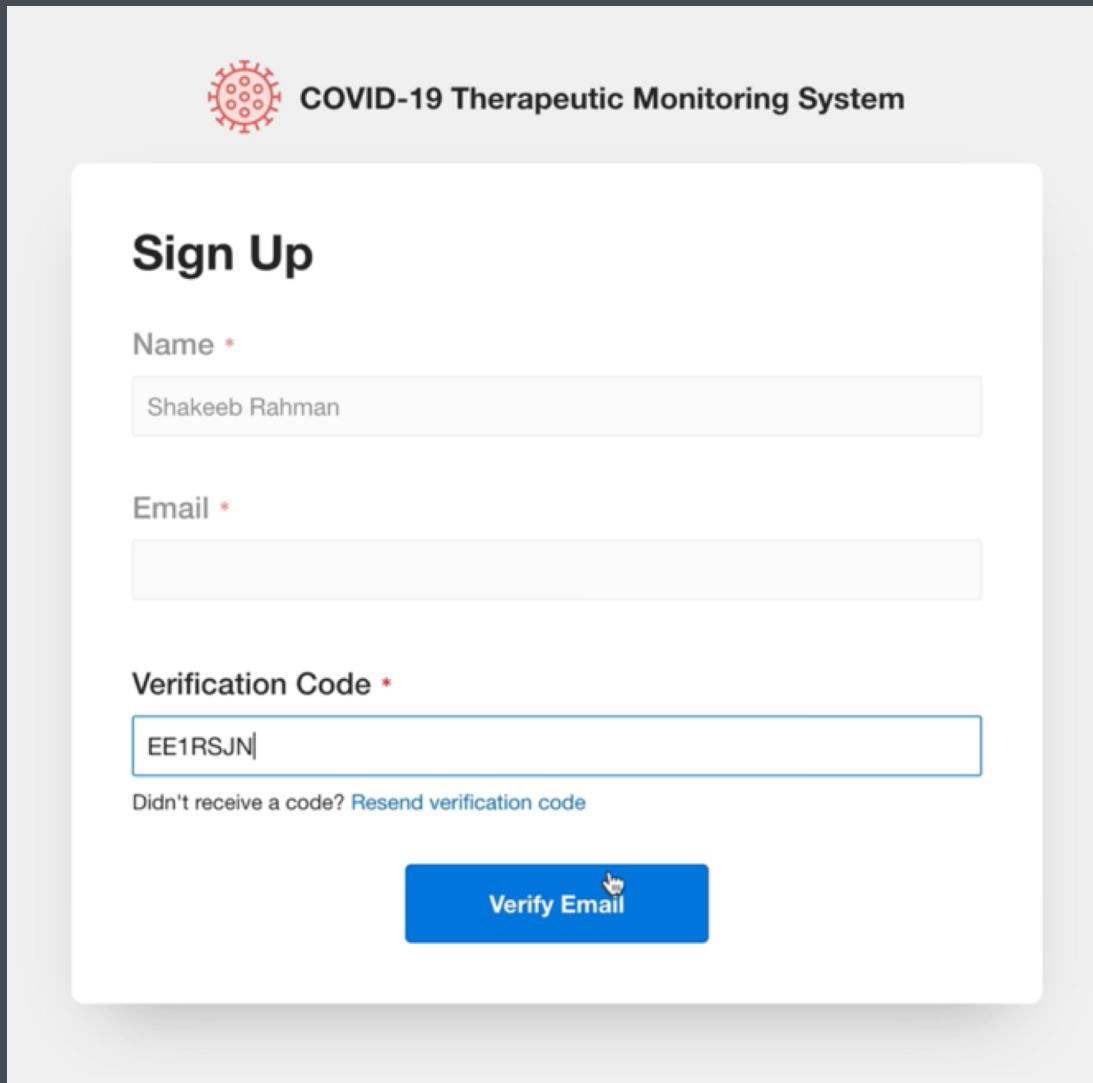
The screenshot shows the COVID Physicians application interface. At the top, there is a blue header bar with the text "COVID Physicians". Below it is a dark navigation bar with three items: "Home" (with a house icon), "Patients" (with a person icon), and "Edit My Information" (with a pencil icon). A search bar at the top right contains the text "Shakeeb Rahman". The main content area features a profile card for "Shakeeb Rahman" with a doctor icon and the name. Below the profile are three buttons: "Add New Patient" (red circle with a plus sign), "Patients" (blue circle with a magnifying glass), and "Edit My Information" (blue circle with a pencil). The bottom of the screen has a footer with links: "Home", "Patients", and "Edit My Information". The footer also includes a "Release 1.0" note and several developer-related links: "Application 900000", "Edit Page 1", "Session", "View Debug", "Debug", and "Edit Page 1".

The screenshot shows a "COVID 19 Patient Update" form. At the top, it says "COVID 19 Patient Update" and "Coronavirus Disease 2019 (COVID-19)". It asks, "Please let us know your daily status." Below is a large blue button labeled "Add Daily Status". A message below the button states, "This message is for informational purposes only". The form is in Japanese and includes the following text:
昨日と比べて体調は?
息切れ
軽い頭痛
立っているのが辛い
発熱
体温
The right side of the form contains several toggle switches and input fields:

- Shortness of Breath: On
- Light Headedness: On
- Weakness on Standing: Off
- Fever: On
- Temperature input field: 36.5

A "Submit Daily Update" button is located at the bottom right.

Day 2



COVID-19 Therapeutic Monitoring System

Sign Up

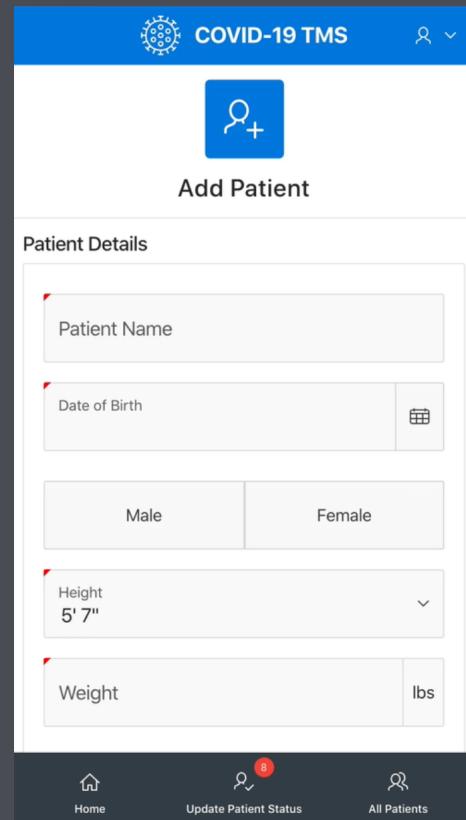
Name *

Email *

Verification Code *

Didn't receive a code? [Resend verification code](#)

[Verify Email](#)



COVID-19 TMS

Add Patient

Patient Details

Patient Name

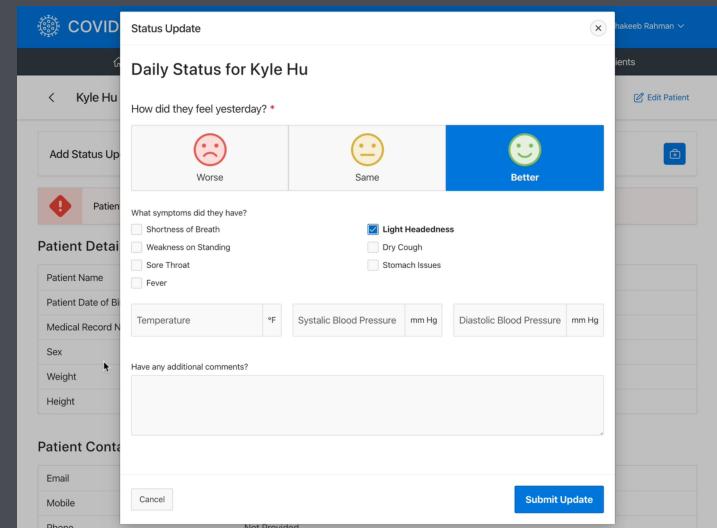
Date of Birth [Calendar](#)

Male Female

Height

Weight lbs

[Home](#) [Update Patient Status](#) [All Patients](#)



Kyle Hu

Status Update

Daily Status for Kyle Hu

How did they feel yesterday? *

Worse Same Better

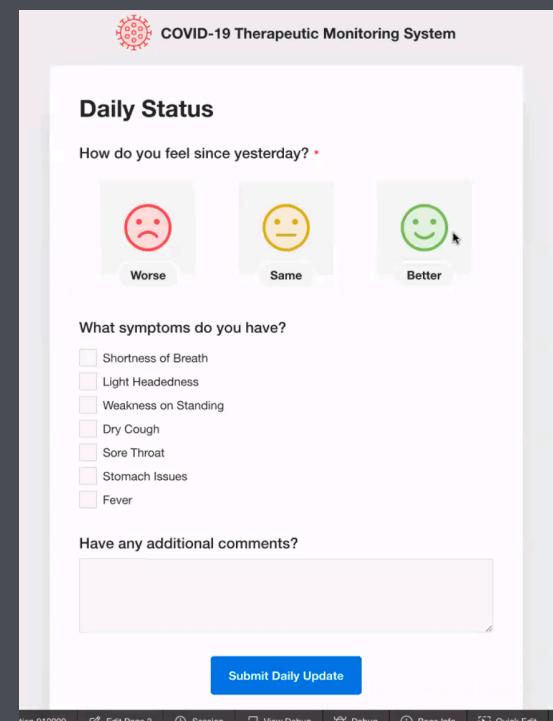
What symptoms did they have?

Shortness of Breath Light Headedness
 Weakness on Standing Dry Cough
 Sore Throat Stomach Issues
 Fever

Temperature °F Systolic Blood Pressure mm Hg Diastolic Blood Pressure mm Hg

Have any additional comments?

[Edit Patient](#) [Submit Update](#)



COVID-19 Therapeutic Monitoring System

Daily Status

How do you feel since yesterday? *

Worse Same Better

昨日と比べて体調は？
(文字入力から3択へ)

スイッチから
チェックボックスへ

What symptoms do you have?

Shortness of Breath Light Headedness
 Weakness on Standing Dry Cough
 Sore Throat Stomach Issues
 Fever

Have any additional comments?

[Submit Daily Update](#)

Day 3

The screenshot shows the Oracle Einstein internal community platform interface. At the top, there's a navigation bar with icons for windows, a search bar containing "einstein.oracle.com", and a user profile picture. Below the header, a banner features a cartoon character with a mustache and the text "Welcome to Einstein! Oracle Einstein is an internal community platform that helps you find answers to questions across a number of domain areas. See What's New".

The main content area is titled "Favorites" and displays four categories of questions:

- APEX**: 2,907 Questions
- COVID-19 TLS**: 477 Questions (highlighted with a red box and a red arrow pointing to it from the text "追加")
- Database**: 5,068 Questions
- OCI**: 7,165 Questions

Each category card includes a small red heart icon at the top right.

Red annotations are present: a red box surrounds the "COVID-19 TLS" card, and a red arrow points from the Japanese text "追加" (Add) above to the red heart icon on the "COVID-19 TLS" card.

Day 4

The image shows two Oracle APEX application windows side-by-side, illustrating the development and deployment of a patient management system.

Left Window (App Builder): This window displays the internal structure of a page. The page item "P110_SYMPTOMS" is selected and highlighted in blue. The "Help" section contains inline help text: "Any other symptoms related to COVID-19". A red arrow points from this text area to the corresponding field on the right-hand page.

Right Window (Patient Login): This is the live version of the application. It shows a "Add Patient" form. The "Patient Details" section includes fields for Patient Name, Date of Birth, Gender (Male/Female), Height (inches/centimeters), and Weight (lbs/kgs). The "Patient Status" section includes fields for In Patient/Out Patient status, Medical Record Number, Care Facility (RESTON HOSPITAL CENTER), Admission Date (22-MAR-2020), First Consultation Date (22-MAR-2020), First Symptom Date (22-MAR-2020), and Symptom Severity (None/Mild/Moderate/Severe/Critical). The "Other Symptoms" section contains a table with rows for Shortness of Breath, Light Headedness, Sore Throat, Gastro/Intestinal, Weakness on Standing, and Fever. The "Temperature" section shows current temperature (98.6°F) and blood pressure (Systolic: 120 mm Hg, Diastolic: 80 mm Hg). The "Patient Contact Information" section includes fields for Alert Preference (Emails, Text Messages, Both), Mobile number (e.g. 202-555-1234), Email, ZIP Code, and care giver status (Yes/No). The "Medications" section lists COVID-19 Medication 1, Medication (No medication prescribed at this time), Dosage, Dosage Unit (mg), and Frequency.

Day 5

A red circular icon representing the COVID-19 virus, featuring a pattern of small circles along its perimeter.

COVID-19 Therapeutic Learning System

Welcome

[Create Your Account](#)

[Sign In](#)



COVID-19 Therapeutic Learning System (TLS)

Home Update Patient Status 1 All My Patients

Welcome Dr. Shakeeb Rahman

Add New Patient
Add a new patient to the Therapeutic Learning System (TLS).

Update Patient Status
Enter patient progress, add medications, transfer patients to new facility or physician, and more. 1

All My Patients
Search and filter your patients across a variety of fields.

Edit My Information
Update your personal, contact, and care facility information.

My Care Facilities
Add or update your care facilities.

Contact Oracle COVID-19 System Support Team
1-800-325-7355 Your Support ID: AAAB0424

Live Chat

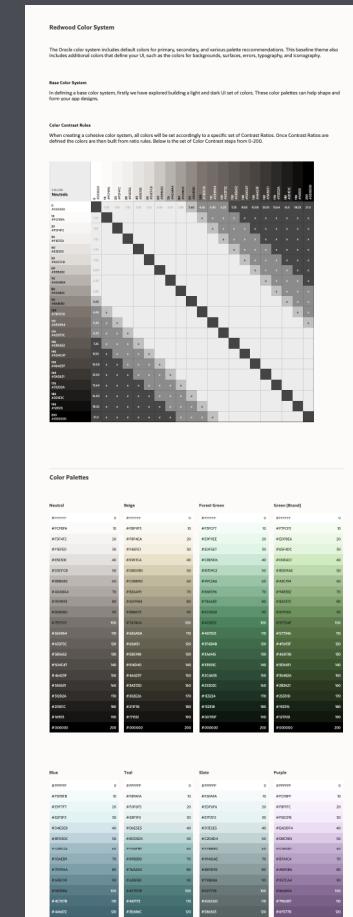
Support ID *

Name *

Email *

Start Chat

20.1.1.3.24.1115 Built with ❤ using Oracle APEX



Day 6

The screenshot shows the Oracle Cloud Infrastructure homepage. On the left, there's a teal sidebar with the text "Gen 2 Cloud Infrastructure" and "Elastic, highly available, and secure". The main content area has a dark background with abstract green and blue patterns. It features sections for "Cloud Applications" (with a sub-section "Complete suite of integrated apps" and a "Register for free" button) and "Oracle Cloud Day Online" (with a sub-section "Explore and discover cloud solutions with customer success stories, a must-see keynote, live Q&A, and a virtual partner expo. May 5, 9:00 a.m. PT."). At the top, there's a navigation bar with a search bar containing "Ask 'HCM'", a "View Accounts" button, and a "Try Oracle Cloud Free Tier" button.

The screenshot shows the Oracle Cloud Reports interface. It displays a table of expense reports. The columns include Status, Employee, Report Name, Amount, Date, Items, and Exceptions. There are 12 rows of data, each representing an expense report for "AI conference in Milan, Italy" from Colin Cheung, with amounts ranging from \$3,342.95 USD to \$3,342.95 USD. The interface includes filters at the top and a "Pending Approval" tab selected.

Status	Employee	Report Name	Amount	Date	Items	Exceptions
Pending Approval	Colin Cheung	NY Group Workshop	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Pending Approval	Colin Cheung	San Francisco Client Meeting	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Pending Approval	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Pending Approval	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Pending Approval	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Send for Payment	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Paid	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Paid	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Paid	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Paid	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions
Paid	Colin Cheung	AI conference in Milan, Italy	\$3,342.95 USD	05/05/2019	10 Expenses	3 Exceptions

The screenshot shows the Oracle Cloud UI design system. It features a dark-themed dashboard with various UI components and their configurations. Components include a card with "LATEST NEWS" and "Donec feugiat, nunc vitae sagittis malesuada", a text input field labeled "Label Input Text", a button labeled "Button", a date range selector for "Day", "Week", and "Month", and a switch for "Dark mode". The interface is labeled "FOREST GREEN THEME". At the bottom, there are links to "2019 Oracle Site map", "Terms of use and privacy", "Country selector", "Cookie preferences", and "Ad choices".

Day 6

The screenshot shows the Oracle APEX website homepage. At the top, there's a dark header with the URL `apex.oraclecorp.com`. On the left is the APEX logo, and on the right are "Get Started" and "Sign In" buttons. Below the header, a large banner features the text "Every line of business at Oracle uses APEX." and "APEX is used to solve real business problems at Oracle every day!". It includes two buttons: "Get Started Now" and "Learn More on apex.oracle.com". Below the banner is a screenshot of the Oracle APEX application interface, showing the App Builder, SQL Workshop, Team Development, and App Gallery modules. The interface has a green header bar with the APEX logo and navigation tabs. To the right of the interface is a sidebar with sections for "About" (describing Oracle APEX as the native application development framework of the Oracle Database) and "Dashboard". At the bottom, there are three cards: "APEX on Einstein" (looking for help? Get your APEX questions answered by the experts on Oracle Einstein!), "Frequently Asked Questions" (commonly asked questions on how to get started, setting up SSO, getting help, and more.), and "APEX @ Oracle" (see how widely APEX is used inside the company and post your own success story!).



Day 7

Welcome

COVID-19 Therapeutic Learning System

Create Healthcare Practitioner Account

Practitioner Account Sign In

COVID-19 Therapeutic Learning System (TLS)

FAQ Provide Feedback Shakeeb Rahman

Home Update Patient Status 1 All My Patients

Welcome Shakeeb Rahman

Add New Patient Add a new patient to the Therapeutic Learning System (TLS).

Update Patient Status Enter patient progress, add medications, transfer patients... 1

All My Patients Search and filter your patients across a variety of fields.

Edit My Information Update your personal, contact, and care facility information.

My Care Facilities Add or update your care facilities.

Contact Oracle COVID-19 System Support Team 1-800-323-7355 Your Support ID: AAAAB0424

COVID-19 Therapeutic Learning System (TLS)

FAQ Provide Feedback Shakeeb Rahman

Home Update Patient Status 1 All My Patients

< Patients

Tyrion Lanister Inpatient

Add Progress Update Manage Medications Discharge Patient Record Recovered

Record Deceased Transfer to Another Facility Transfer to Another Clinician

Patient Details

Active Clinician	Shakeeb Rahman
Patient Name	Tyrion Lanister
Patient Date of Birth	01-Mar-1940 Age: 80

Care Facility

Facility Name	RESTON HOSPITAL CENTER
Admission Date	24-Mar-2020
Medical Record Number	986754

Patient Contact Information

Email	shakeeb@gmail.com
Mobile	Not Provided
Zip	Not Provided

Concurrent COVID-19 Medications

Manage Medication

APEX Applications

Apps

Main App 43

Patient Update 4

Registration 5

APEX Applications

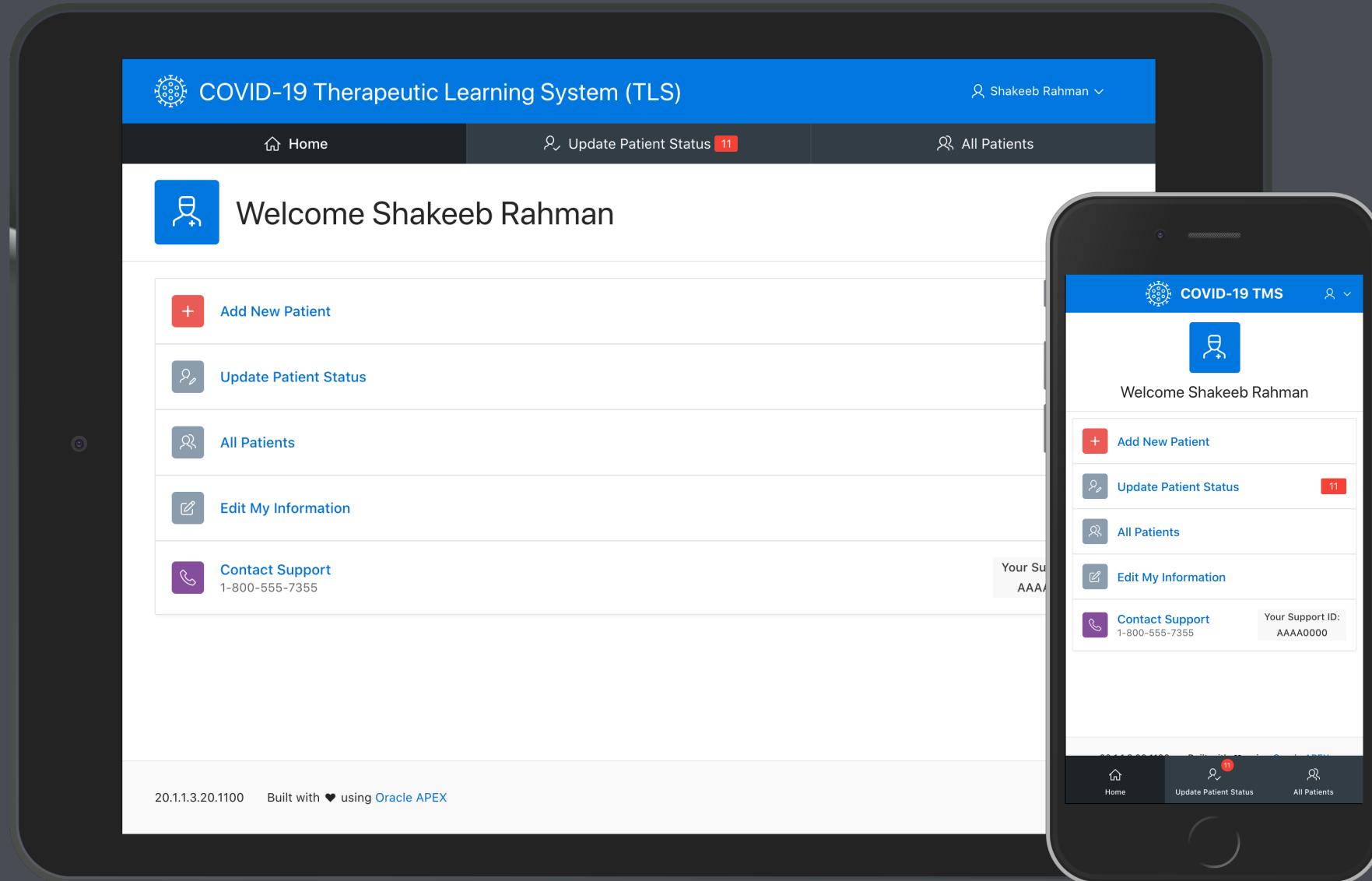
Apps	Pages	Back Office Apps	Pages
Main App	43	Administration	67
Patient Update	4	Support Staff	35
Registration	5	Activity Monitoring	23
		Dashboard	28

March 2020

< Today >

Sun	Mon	Tue	Wed	Thu	Fri	Sat
8	9	10	11	12	13	14
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29 Refine and Test	30 Launch	31	Apr 1	2	3	4
5	6	7	8	9	10	11





 COVID-19 Therapeutic Learning System (TLS)

FAQ Submit Feedback Shakeeb Rahman

Home Add Patient My Patients 1 Search My Patients

Welcome Shakeeb Rahman

 **Add Patient**
Add a new patient to the Therapeutic Learning System (TLS).

 **My Patients**
Enter patient progress, add medications, transfer patients to new facility...

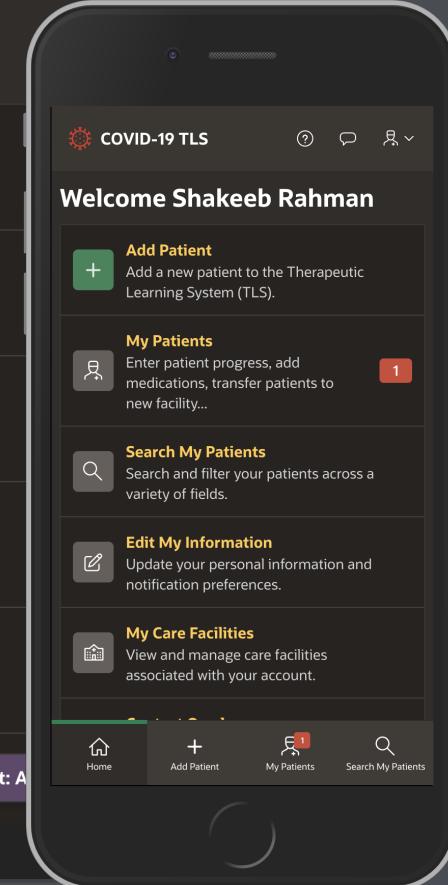
 **Search My Patients**
Search and filter your patients across a variety of fields.

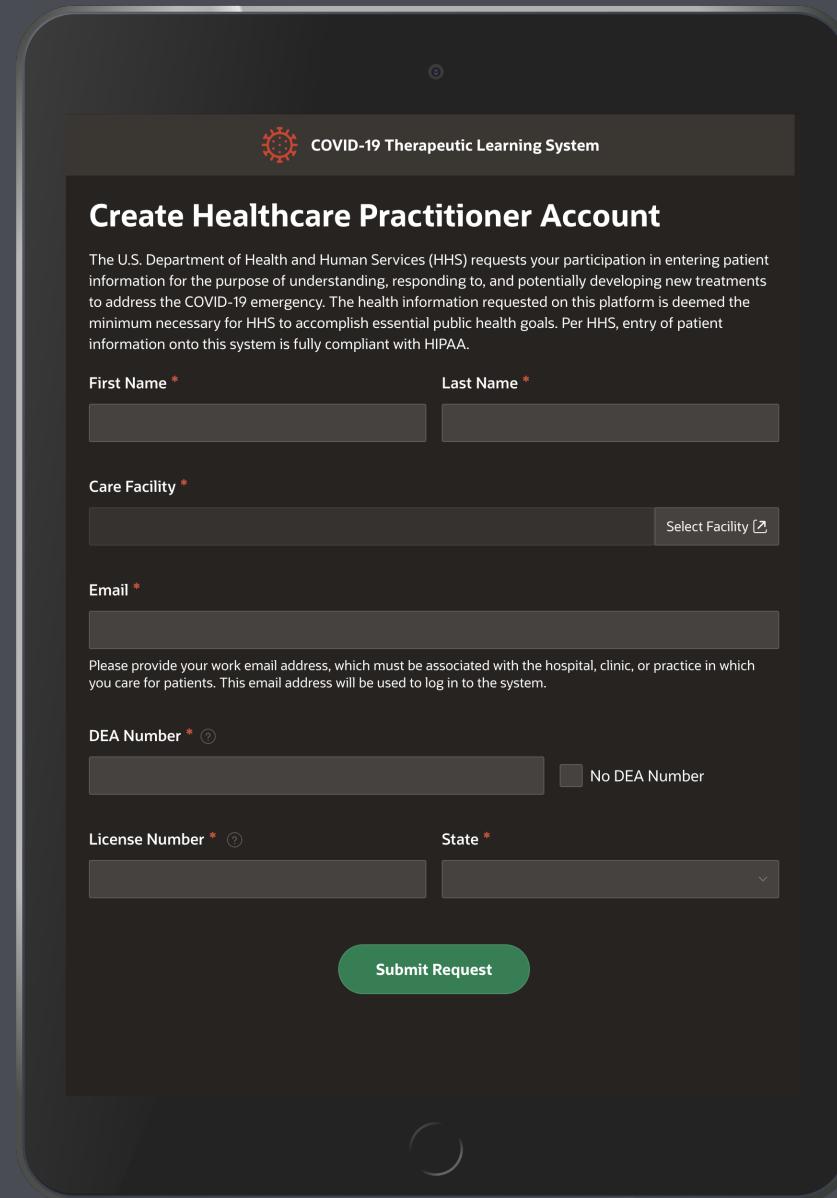
 **Edit My Information**
Update your personal information and notification preferences.

 **My Care Facilities**
View and manage care facilities associated with your account.

 **Contact Oracle COVID-19 System Support Team**

 Chat: A





COVID-19 Therapeutic Learning System

Create Healthcare Practitioner Account

The U.S. Department of Health and Human Services (HHS) requests your participation in entering patient information for the purpose of understanding, responding to, and potentially developing new treatments to address the COVID-19 emergency. The health information requested on this platform is deemed the minimum necessary for HHS to accomplish essential public health goals. Per HHS, entry of patient information onto this system is fully compliant with HIPAA.

First Name *

Last Name *

Care Facility * [Select Facility](#)

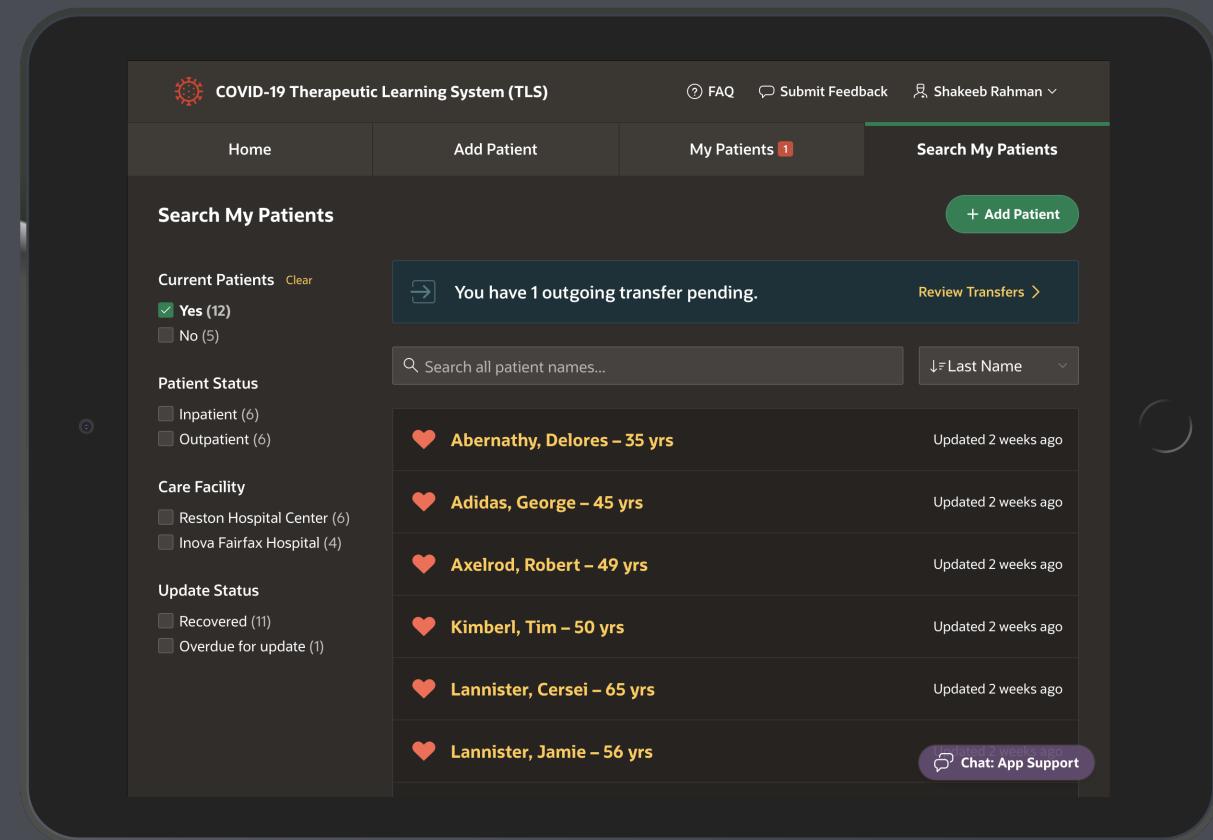
Email *

Please provide your work email address, which must be associated with the hospital, clinic, or practice in which you care for patients. This email address will be used to log in to the system.

DEA Number * No DEA Number

License Number * **State ***

Submit Request



COVID-19 Therapeutic Learning System (TLS)

FAQ Submit Feedback Shakeeb Rahman

My Patients 1

Search My Patients [+ Add Patient](#)

Current Patients [Clear](#)

- Yes (12)
- No (5)

Patient Status

- Inpatient (6)
- Outpatient (6)

Care Facility

- Reston Hospital Center (6)
- Inova Fairfax Hospital (4)

Update Status

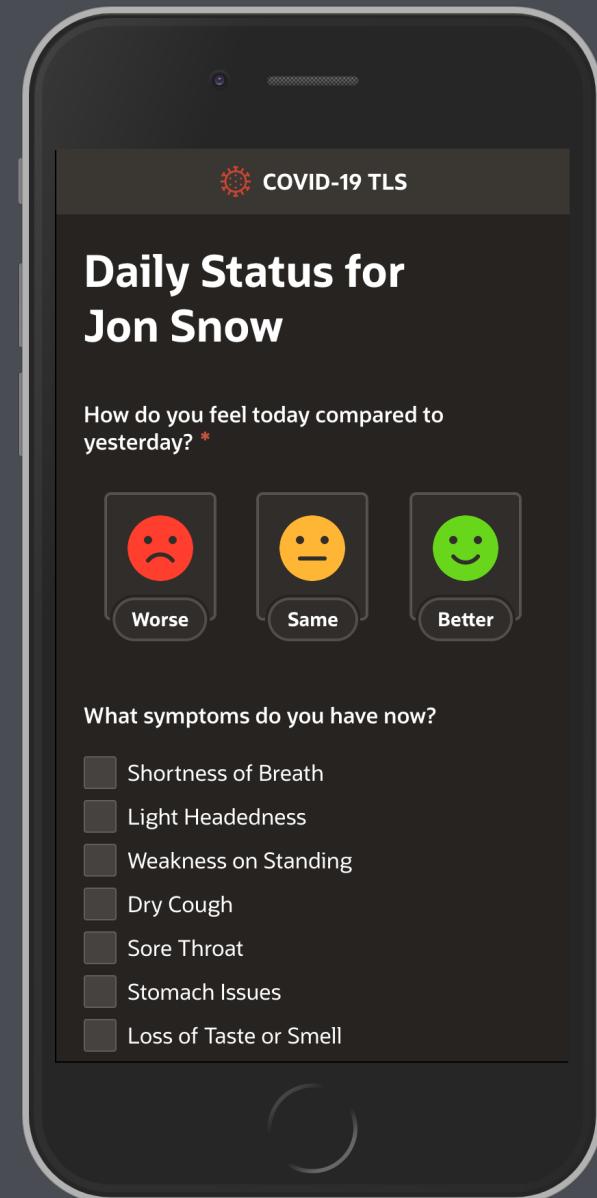
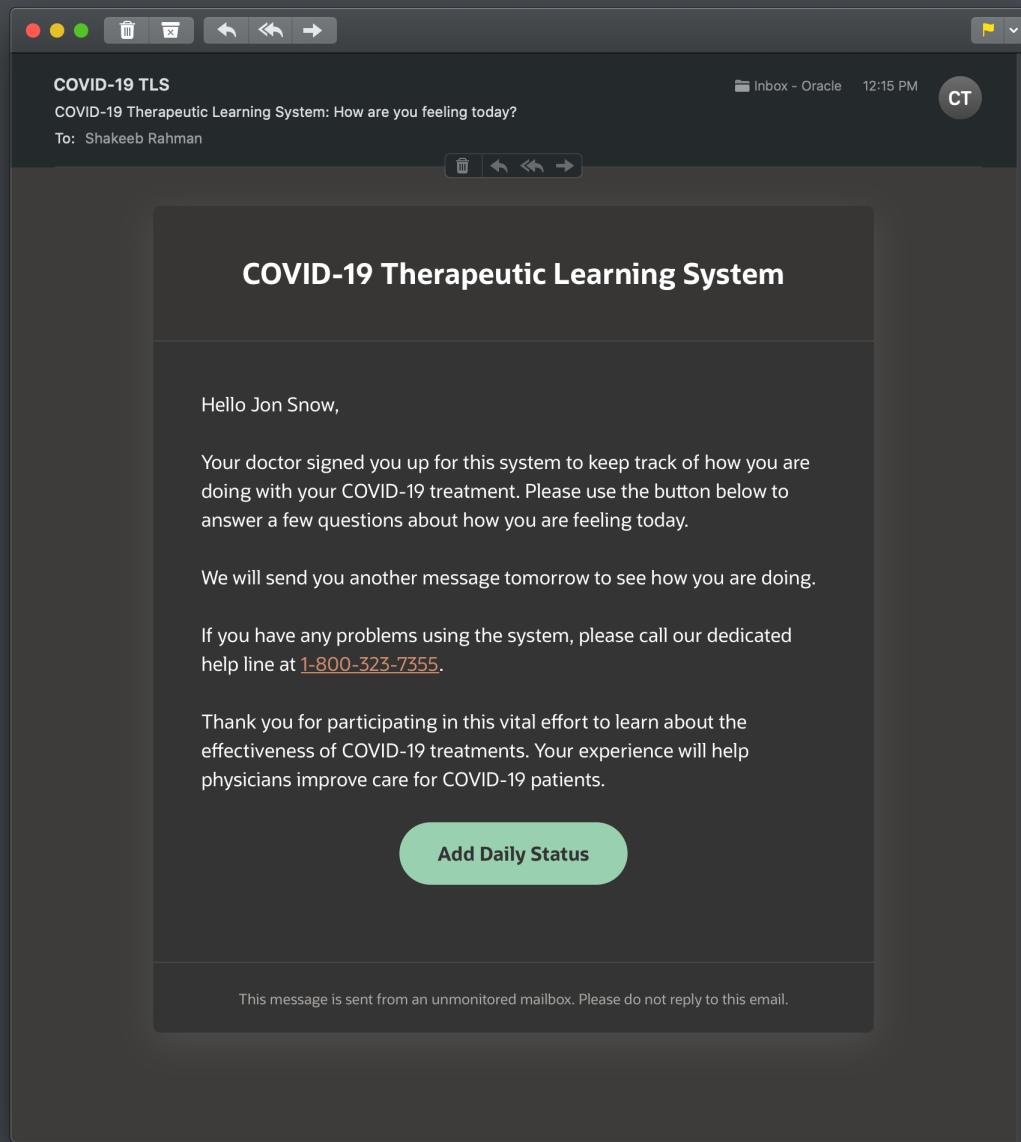
- Recovered (11)
- Overdue for update (1)

You have 1 outgoing transfer pending. [Review Transfers](#)

Search all patient names... [Last Name](#)

Heart icon	Patient Name - Age	Last Updated
Heart icon	Abernathy, Delores – 35 yrs	Updated 2 weeks ago
Heart icon	Adidas, George – 45 yrs	Updated 2 weeks ago
Heart icon	Axelrod, Robert – 49 yrs	Updated 2 weeks ago
Heart icon	Kimberl, Tim – 50 yrs	Updated 2 weeks ago
Heart icon	Lannister, Cersei – 65 yrs	Updated 2 weeks ago
Heart icon	Lannister, Jamie – 56 yrs	Updated 2 weeks ago

[Chat: App Support](#)



まとめ

Oracle APEX



- ・業界をリードするローコード開発プラットフォーム
- ・気軽に学習を開始できる
- ・SQL と REST を扱いやすい
- ・レスポンシブなモバイル・アプリの作成
- ・無料を含む全てのOracle Databaseに付属
- ・Oracle Cloud Free Tierで利用可能
- ・世界中、あらゆる業界でのサクセス・ストーリ
- ・50万を超える開発者によるコミュニティ

A screenshot of the Oracle App Builder interface. The top navigation bar shows "ORACLE", "App Builder", "SQL Workshop", "Team Development", "App Gallery". The main window has tabs for "Page Designer" and "Code Editor - SQL Query". In the SQL Query editor, the code "select * from projects" is shown. In the JavaScript editor, several lines of code are visible, including "table.appendTo(\$('#That.container'));" and "window.onload = function() {". Two dark grey callout bubbles highlight the word "APEX" in the SQL query and the word "JavaScript" in the JS code. The background shows a sidebar with "Regions" and "Content" sections.

20倍の速さ、100分の1のコード

最後に

Oracle Health Management System – ガーナ、ルワンダ、シェラリオネでの利用

African countries use the Oracle Cloud to manage their vaccination programs from yellow fever to COVID-19

Doctors and nurses are using data to save lives

Watch how doctors and nurses in Ghana are creating electronic health records in the Oracle Cloud to keep track of everyone they vaccinate for yellow fever.

Scott Spendolini
@sspendol

Honored and proud to be a part of the team that designed & deployed these applications - both here in the US & abroad.
#orclapex

ツイートを翻訳

Oracle @Oracle · 1日
Information is powerful medicine. In partnership with @InstituteGC, learn how African countries are using our #cloud to digitize healthcare records, strengthen public health programs, and save lives. social.oracle/6018HHbFw

whatever lessons we learned, will help us better manage COVID vaccines.

<https://www.oracle.com/no/corporate/citizenship/health/?intcmp=OHP1123-pn>

Oracle APEXに関する情報はこちらから

apex.oracle.com

ORACLE