

Provisional Application for United States Patent

INVENTION TYPE:

This invention is an invention of the following type(s):

- Software GUI Design
- Method or Process

TITLE: SYSTEM AND METHOD OF CUSTOMER INTERACTION AND GRAPHICAL
USER INTERFACE FOR REMOTE AUTONOMOUS SURVEY OF FARMS BY
DRONES

INVENTOR(S):

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Tarun Srivatsan, Intern, DroneInch Inc.

BACKGROUND

[0001] This abstract generally describes computer-implemented methods, software, and systems for interacting with a UI design on a Mobile phone in a first context and automatically performing and previewing related interactions with the UI design. A computer-implemented method includes, in one example, presenting a user interface (UI) layout for a first context in a primary display. The UI design describes an intuitive way for farmers (and/or designates) to interact with the DroneInch software application to indicate their intent via a series of interactions. These interactions include but are not limited to selecting a farm, marking a field by way of indicating boundary points, defining one or more recurring/non-recurring missions, detailing crop parameters, drone details, payload/camera details etc. as described in the sections below.

BRIEF SUMMARY OF THE INVENTION

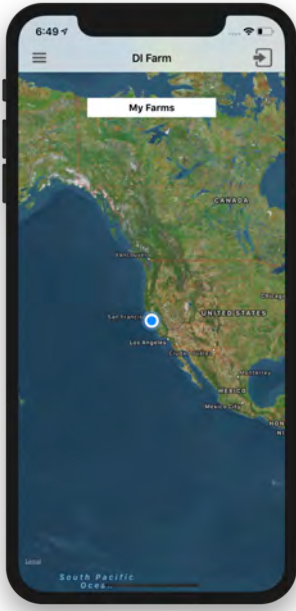
[0002] The Graphical User Interface (GUI) screen designs described in the next section and as illustrated in the drawings document represent methods of interaction between the user and the mobile application. The user uses the screen interactions to detail the following.

1. Describe attributes and Locate a Farm
2. Describe attributes and Locate the boundary extremities of Fields within the farm
3. Define the crop type and planting schedule for the crop season
4. Describe one or more recurring/non-recurring missions indicating the times and dates when the drone should fly
5. Choose details of the mission such as spot mission, burst photos, Video, etc and adjust the suggest flight and camera parameters
6. Specify user preferences such as unit type
7. Maintain the master list of crops, define customer crops and mission details for the crop such as camera angle and heading of drone while in flight to get the most optimal view
8. Maintain a master list of birds (aka drones) and customize parameters based on the drone purchased
9. Maintain master list of Cameras/Payloads used in the drone

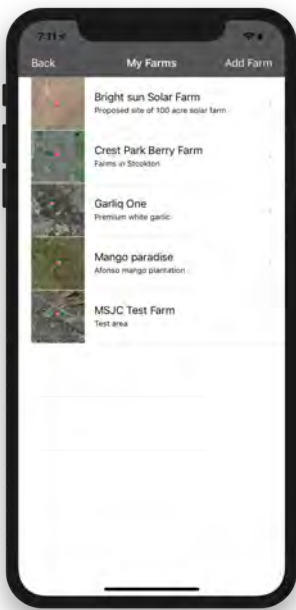
Items protected include UI designs, interaction design and style/color combinations used in the screens

BRIEF DESCRIPTION OF THE DRAWINGS

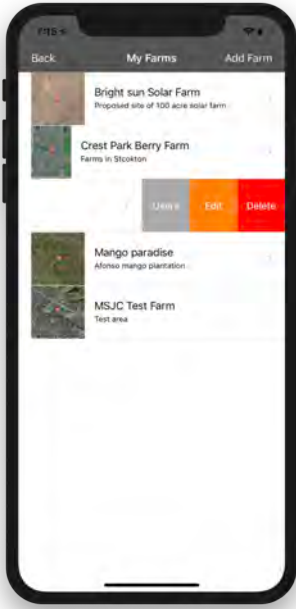
[0003] Figure 1 – Home Screen: This is the opening screen when the mobile app is launched



[0004] **Figure 2a – My Farms Screen View 1:** This screen lists all the farms belonging to the user. An alternate version of this view will depict the farms on a map of the world



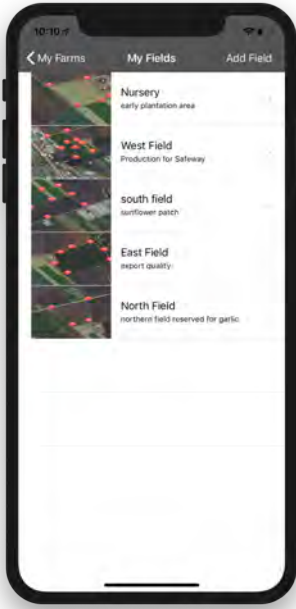
[0005] **Figure 2b – MyFarms Screen view 2:** This view indicates the ability to swipe a row to the left or right to reveal sub action buttons to Edit or Delete the farm and to provide users access to the farm



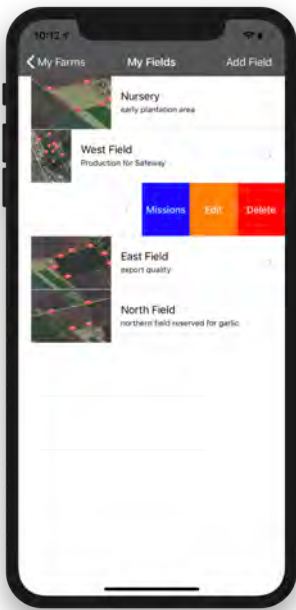
[0006] Figure 3 – Add/Edit Farm Screen: This screen can be used to define the attributes of a new farm or edit a previously defined farm



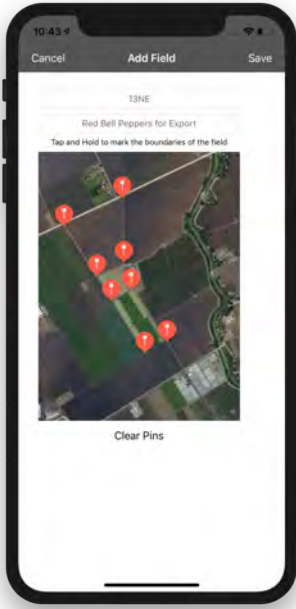
[0007] Figure 3a – MyFields Screen view 1: This screen lists all the fields belonging to a farm



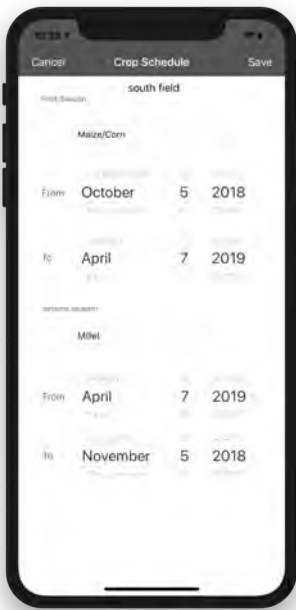
[0008] Figure 3b – MyFields Screen view 2: This view reveals the actions available on a swipe of the field row



[0009] Figure 4 – Add/Edit Field: This screen can be used to define the attributes of a new field or edit a previously defined field

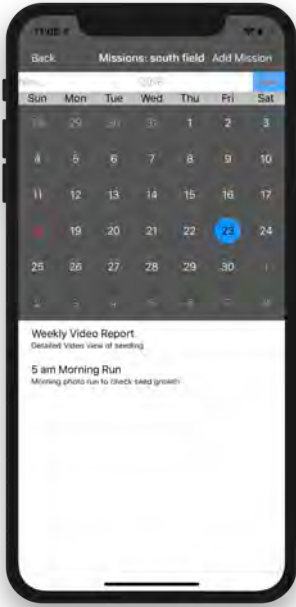


[00010] Figure 5 –Crop Schedule Screen: This screen is used to indicate which crops are sown when in the field

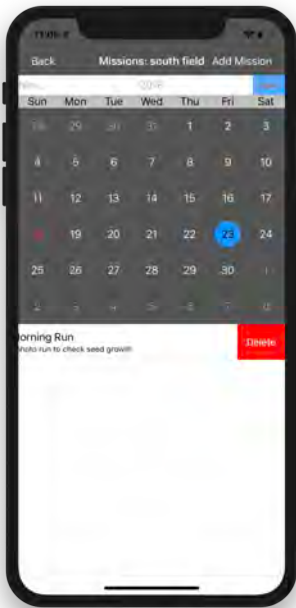


[00011] Figure 6a – Missions Screen view 1: This screen presents a navigable calendar view of missions. The upper half begins with a scrollable calendar centered at the current date

(highlighted in red). When any date is clicked the lower half of the screen refreshes with missions scheduled for that particular date



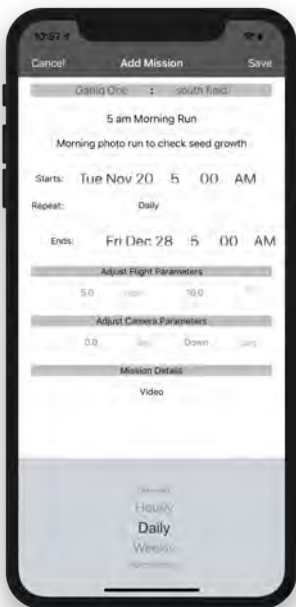
[00012] Figure 6b – Missions Screen view 2: This view shows the ability to delete missions by swiping. When a mission is deleted all occurrences of the mission are removed from the UI



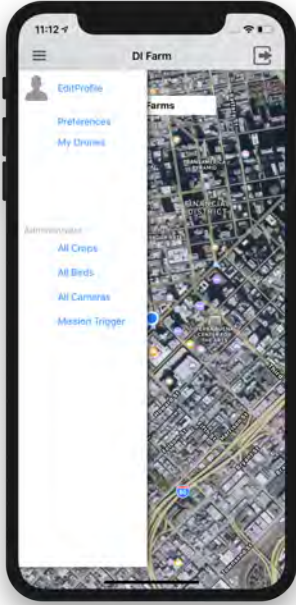
[00013] Figure 7a – Add/Edit Mission Screen view 1: This screen details the various configurable parameters that will define a flight mission



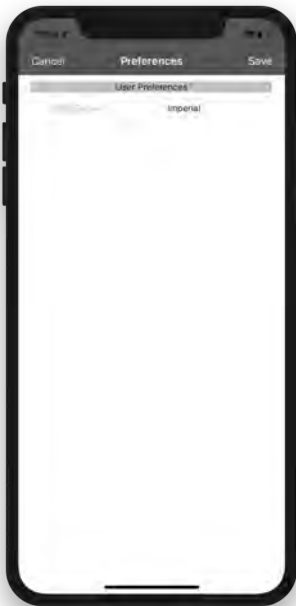
[00014] Figure 7b – Add/Edit Mission Screen View 2: This view details configurable options for the periodicity of the mission - None (One time), Hourly, Daily, Weekly, Monthly, Yearly



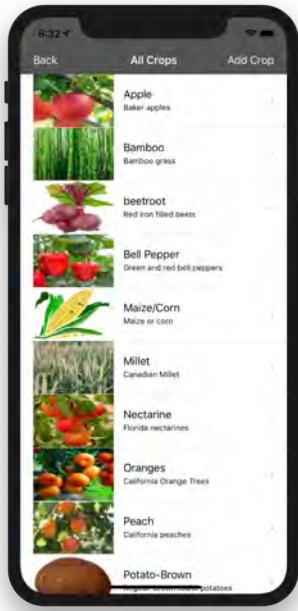
[00015] Figure 8 – Home Screen with Menu: This screen illustrates the hamburger menu appearing from the left



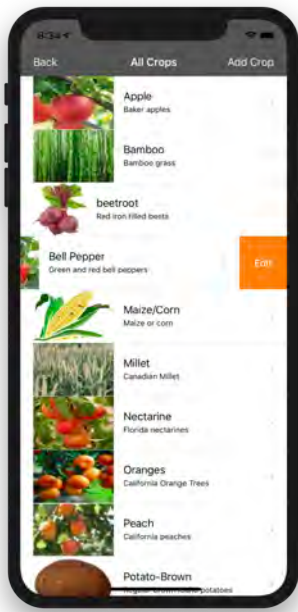
[00016] Figure 9 – Preferences Screen: This screen indicates user selectable preferences



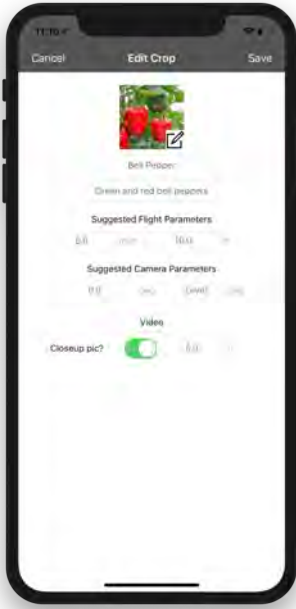
[00017] Figure 10a – AllCrops Screen View 1: This screen details master list of crops



[00018] Figure 10b – AllCrops Screen View 2: This view shows the swipe action to edit a crop



[00019] Figure 11 – Add/Edit Crop Screen: This screen shows the configurable parameters to add a new crop



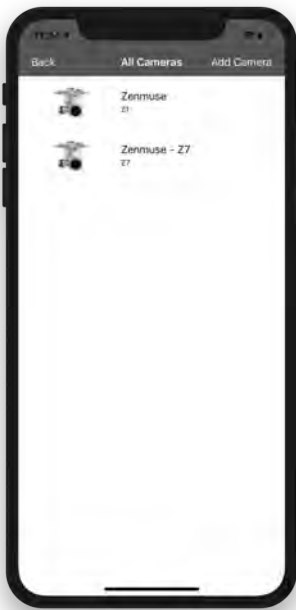
[00020] Figure 12 – All Birds Screen: This screen lists the master list of aircraft called birds which forms the flying part of drone



[00021] Figure 13 – Add/Edit Bird Screen: This screen provides the ability to add new/edit birds to/in the list



[00022] Figure 14 – All Cameras Screen: This screen lists the master list of cameras/payloads attached to the bird



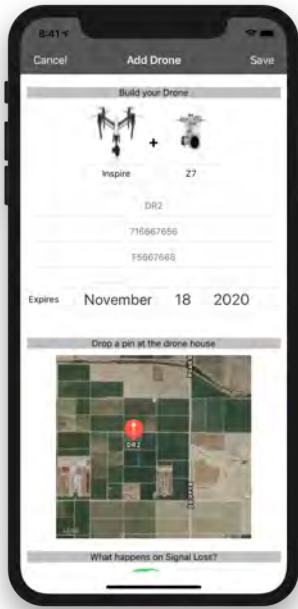
[00023] Figure 15 – Add/Edit Camera Screen: This screen lists the configurable parameters of the camera/payload



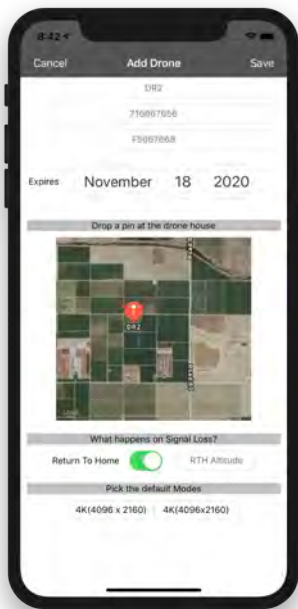
[00024] Figure 16 – MyDrones Screen: List of drones being used by the user



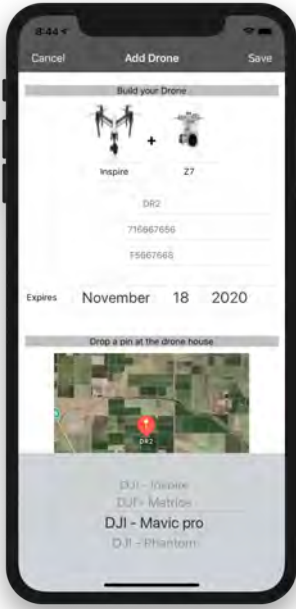
[00025] Figure 17a – Add/Edit Drone Screen View 1: This screen is used by the user to describe the drone being used by picking the right combination of the aircraft/bird and camera/payload to represent the actual drone in the field. It also provides an ability to drop a pin on a map indicating the home location of the drone



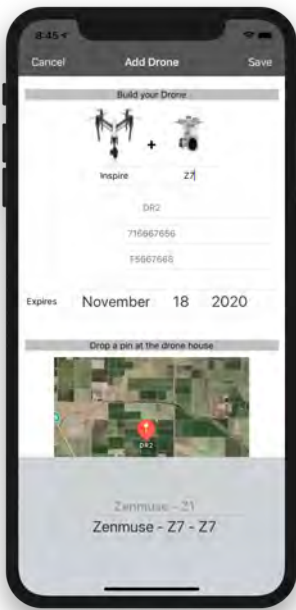
[00026] Figure 17b – Add/Edit Drone Screen View 2: This view indicates options to choose when the drone loses signal connection to the controller and the default photo and video modes



[00027] Figure 17c – Add/Edit Drone Screen View 3: This view shows list of selectable aircraft/birds



[00028] Figure 17d – Add/Edit Drone Screen View 4: This view shows a list of selectable camera/payloads



DETAILED DESCRIPTION AND BEST MODE OF IMPLEMENTATION

[00029] This invention describes the design to help a farmer describe his/her farm, the fields in the farm and the desired missions to be flown

[00030]

CLAIMS

[00031] The ornamental design for the mobile app used by a farmer for remote autonomous survey of farms by drones as shown and described

OTHER USES OR APPLICATIONS FOR THIS INVENTION:

None

ABSTRACT:

[00032] This abstract generally describes computer-implemented methods, software, and systems for interacting with a UI design on a Mobile phone in a first context and automatically performing and previewing related interactions with the UI design. A computer-implemented method includes, in one example, presenting a user interface (UI) layout for a first context in a primary display. The UI design describes an intuitive way for farmers (and/or designates) to interact with the DroneInch software application to indicate their intent via a series of interactions. These interactions include but are not limited to selecting a farm, marking a field by way of indicating boundary points, defining one or more recurring/non-recurring missions, detailing crop parameters, drone details, payload/camera details etc. as described in the document.