

Claims

What is claimed is:

1. A computerized system for automated delivery worker scheduling, comprising:
 - at least one processor; and
 - at least one non-transitory storage medium comprising instructions that, when executed by the at least one processor, cause the at least one processor to perform steps comprising:
 - receive a forecasted number of sold units for a first period of time;
 - receive a unit per parcel rate associated with a plurality of camps;
 - determine a number of parcels for the plurality of camps based on the forecasted number of sold units and the respective unit per parcel rate;
 - determine forecasted attendance information for the plurality of camps;
 - determining a number of delivery workers based on the forecasted attendance information and the number of parcels; and
 - assigning a plurality of the parcels to the determined delivery workers.
2. The system of claim 1, wherein
 - determining forecasted attendance information comprises determining historical attendance information for a set of delivery workers; and
 - assigning the plurality of the parcels to the determined delivery workers comprises assigning the plurality of parcels based on the determined historical attendance information.

3. The system of claim 1, wherein determining the forecasted attendance rate further comprises receiving, from a mobile device associated with at least one delivery worker, vacation or absence information for the first time period.
4. The system of claim 1, wherein the determined delivery workers comprise permanent delivery workers.
5. The system of claim 4, wherein assigning the plurality of the parcels to the determined delivery workers comprises:
 - assigning fewer than the plurality of parcels to the permanent delivery workers;
 - determining a difference between the plurality of the parcels and the assigned plurality of parcels to determine a number of deliverable parcels;
 - determining a number of temporary delivery workers;
 - assigning the deliverable parcels to the temporary delivery workers.
6. The system of claim 1, wherein at least one of the plurality of camps is associated with a camp-level capacity and a camp-level efficiency.
7. The system of claim 6, wherein the number of parcels for the first camp is further based on the associated camp-level capacity and camp-level efficiency.
8. The system of claim 1, wherein assigning a plurality of the delivery workers comprises assigning based on individual target efficiency values for each delivery worker.

9. The system of claim 8, wherein assigning based on individual target efficiency values comprises assigning to reduce overtime or comply with a rule.
10. The system of claim 1, wherein the plurality of delivery workers comprise driving delivery workers and walking delivery workers.
11. A computer-implemented method for automatic packaging determination, the method comprising:
 - receive a forecasted number of sold units for a first period of time;
 - receive a unit per parcel rate associated with a plurality of camps;
 - determine a number of parcels for the plurality of camps based on the forecasted number of sold units and the respective unit per parcel rate;
 - determine forecasted attendance information for the plurality of camps;
 - determining a number of delivery workers based on the forecasted attendance information and the number of parcels; and
 - assigning a plurality of the parcels to the determined delivery workers.
12. The computer-implemented method of claim 11, the method further comprising:
 - determining forecasted attendance information comprises determining historical attendance information for a set of delivery workers; and
 - assigning the plurality of the parcels to the determined delivery workers comprises assigning the plurality of parcels based on the determined historical attendance information.

13. The computer-implemented method of claim 11, wherein determining the forecasted attendance rate further comprises receiving, from a mobile device associated with at least one delivery worker, vacation or absence information for the first time period.
14. The computer-implemented method of claim 11, wherein the determined delivery workers comprise permanent delivery workers.
15. The computer-implemented method of claim 14, wherein assigning the plurality of the parcels to the determined delivery workers comprises:
 - assigning fewer than the plurality of parcels to the permanent delivery workers;
 - determining a difference between the plurality of the parcels and the assigned plurality of parcels to determine a number of deliverable parcels;
 - determining a number of temporary delivery workers;
 - assigning the deliverable parcels to the temporary delivery workers.
16. The computer-implemented method of claim 11, wherein at least one of the plurality of camps is associated with a camp-level capacity and a camp-level efficiency.
17. The computer-implemented method of claim 16, wherein the number of parcels for the first camp is further based on the associated camp-level capacity and camp-level efficiency.

18. The computer-implemented method of claim 11, wherein assigning a plurality of the delivery workers comprises assigning based on individual target efficiency values for each delivery worker.
19. A system comprising:
 - a memory storing instructions; and
 - at least one processor configured to execute the instructions to perform operations comprising:
 - receiving a forecasted number of sold units for a first period of time;
 - receiving a unit per parcel rate associated with a plurality of camps;
 - determining a number of parcels for the plurality of camps based on the forecasted number of sold units and the respective unit per parcel rate;
 - determining forecasted attendance information for the plurality of camps;
 - determining a number of delivery workers based on the forecasted attendance information and the number of parcels;
 - determining the number of delivery workers is insufficient for delivery of the number of parcels to at least a first camp;
 - reassigning a fixed number of delivery workers from a second camp to the first camp;
 - assigning, based on the reassignment, flex delivery workers to the first camp; and
 - assigning a plurality of the parcels to the reassigned and flex delivery workers.
20. The system of claim 19, wherein the flex workers do not work a fixed work schedule.