Smart Waste Management System for Metropolitan Cities



Customer Journey

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| **SCENARIO**  **Browsing, booking, attending, and rating a local city tour** | **Entice**  How does someone initially become aware of this process? | **Enter**  What do people experience as they begin the process? | **Engage**  In the core moments in the process, what happens? | **Exit**  What do people typically experience  as the process finishes? | **Extend**  What happens after the experience is over? |
| **Steps**  What does the person (or group) typically experience? | **collect garbage separate waste** alert message send view details on  to controlroom trashcan  Smart City technology Smart cities essentially The current state of The solution presented in this evolved together with the combine the use of ICT to technology in the field of article focuses on the mitigation of developments in wireless provide services for smart waste management these disadvantages by the  involves the use of sensors implementation of RFID based  sensor networks (WSN) better living conditions that measure the fill level of trash identification system and  additional weight sensor for  and the Internet of Things inside cities. the trash bin.  improved fill level estimation. | **seperate collection expanding the the circular reliable collection and sorting recycling industry economy based as a and better landfill**  **resource sites**  Metropolitan City citizens Trashvan Dirvers & Workers Monitoring the dumpsters  People whose house The dustbins need to and send the information The sensors senses the amount  of waste in trashcans and the  near the trashcans. empty after it got filled. about the garbage level to the device sends the notification to  The overflowing needs to authenticated person to the head office, they will come  avoid. empty the trashcans using and collect the wastages.  arduino device. | **extensive**  **uncontrolled prevention preparation of reuse recycling dumping**  The citizens can send the The current process of waste The lack of resources and One is to think little of message about the management starts with the capacities and a low level of disasters and become smart dumpsters if any waste being created by knowledge and education defenseless  damage on the IoT device people in the cities and emerged in all case studies as The other is to fear disasters  disposed in trash bins near its major root causes for several excessively and to be  occured. creation point. drivers of disaster risk. confused. | **fully digital and easy clean city and suitable infrature to access maintain itself and maintenance**  **easily**  Awareness, education, The user can contact The device using here  preparedness, and prediction  and warning systems can our team if they feel is help to update the  reduce the disruptive impacts any hardness while content regularly and  of a natural disaster on  communities. using the app. check the truthfulness. | **they feel clean**  **management clean india system system**  Some trash bins are The waste management  services take care of a healthy  overfilled while others environment allowing  are underfilled by the optimization of the utilities  trash collection time and prevent overloading the  carrier for waste disposal. |
| **Interactions**  What interactions do they have at each step along the way?  **People:** Who do they see or talk to?  **Places:** Where are they?  **Things:** What digital touchpoints or physical objects would they use? | all human produce garbagebin urbanwaste municipal solid overflows monitoring collection is  waste by the ultrasonic expendicture on  sensor government budgets  garbage produce in different area in a city vvarious widely | checking the status sensing the level of application to send of sensor bins feedback | website to monitor analyse status of easily report the the trash can dustbiiin current status of  garbage | internet is neccesary the device may send feel easy to monitor  to use the webapp wrong information the waste | it reduces the fuel sensor can be  cost for travelling damaged when collecting garbage |
| **Goals & motivations**  At each step, what is a person’s primary goal or motivation? (“Help me...” or “Help me avoid...”) | clean india make waste free protection of public encourage the environment health recycling industries | development and reduce ,recycle,and encourage the adoption  improvement of of sustainable  clean technology to reuse production and  conseption patterns | the environment to each type has  support the economic waste can be different methods of  development and solid,liquid or gases disposal  superior quality of life | each type has industral,biological its reduce the different types of waste or organic and dangerous effect  management biomedical waste | a big part of waste  management deals well maintained area with municipal solid  waste |
| **Positive moments**  What steps does a typical person find enjoyable, productive, fun, motivating, delightful, or exciting? | become a smart city enhance safety reduce man power | effective way to optimization of scarb metal reuse keep the clean city resources | quality control shipping to the point improvement and exchange of waste of use process monitoring | reduse harmfull reduce the use of  waste water zero waste packaging material | protect the increase the fertility environment of the soil |
| **Negative moments**  What steps does a typical person find frustrating, confusing, angering, costly, or time-consuming? | jobless increasing cost of difficult to maintain the dustbin the dustbin | soil contamination water contamination air contamination | harm towards animal extreme weather human damage and marine life pased by climate  change | loss of habitats incase of any short sensor affect by  circuit water | incase of any some cloud warning malfunction issue |
| **Areas of opportunity**  How might we make each step better? What ideas do we have? What have others suggested? | smart waste bins waste level sensor | AI recycling robots garbage truck weighing mechanism | pneumatic waste solar powered trash pipes compacters | E-waste kiosk recycling apps | waste management sustainability program development |