

A disinfection robot built by students combats COVID-19 in Lebanon

Author:

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BEIRUT: Sanitation and good hygiene are the best defenses against coronavirus, but constant cleaning and disinfection puts cleaners and anyone they come into contact with at risk of the disease. Enter the robots.

Two Lebanese engineering graduate students are helping their country's fight against the pandemic by developing a low-cost automaton that has already been deployed in hospitals and homes across the country.

Ali Mohamed Hassan, one of the brains behind the project, said: "The project aims to reduce risks to humans through technological solutions. The idea is to sterilize infected areas and surfaces, such as hospitals, endemic neighborhoods and isolation rooms, to prevent doctors, health workers and volunteers from being infected."

Hassan and his classmate Abdul Latif Atwi, both 23-year-old students at the Lebanese International University, built the robot earlier this year. The prototype holds between 15 to 25 liters of disinfectant and can spray an area of three square meters. The robot is powered by three 12 volt batteries and can be controlled remotely from a distance of up to one kilometer.

Atwi said the robot is a rework of the duo's spring 2019 senior project, an agricultural pesticide atomizer.

The new prototype took three months and cost about \$700 to construct, with \$100 going toward the purchase of a pump that was imported from Kuwait, where Hassan works with a mechanical engineering company.

They have already put their invention to work in cleaning wards and operating rooms at Nabih Berri Hospital, as well as in 25 homes. The service costs between \$50 and \$75 depending on the size of the job. People reach out to them for help with disinfection through their Facebook page.

"We focus on closed areas to avoid human contact, but optimum performance absolutely depends on human input so all surfaces within an indoor space are cleaned," Hassan said.

The World Health Organization does not recommend indiscriminate spraying of disinfectant in indoor spaces, based on a study which found spraying ineffective in removing contaminants outside of direct spray zones.

"That's why you need a human being to operate the robot, so that every surface is sanitized, including those most at risk," he said.

The duo are currently marketing their creation to other hospitals and hope to build more robots. They also want to equip their invention with a thermal

scanner to detect people who may have developed a fever from COVID-19.

“The next-generation robot will do two jobs,” Atwi said. However, the pair face a problem.

“The thermal camera we want costs about \$10,000, so it will take us some time to raise that amount,” Atwi added.

Hassan and Atwi have not actively sought to raise funds for the project but hope to be able to bootstrap the project themselves, although they said they would welcome external investment.

“If we are able to expand our team, we can build more robots,” Atwi said.

The pair have had their fair share of challenges getting to this point, Hassan said, adding that public attitudes can be a significant disincentive.

“In our country, people don’t encourage you to work on such projects. You’ll be mocked for even attempting to try and solve a problem,” he said.

“In addition, there are few domains available to help budding inventors. Luckily, we had the support of our university faculty. Without them, we wouldn’t have been able to break through,” he added.

Either way, their story is inspirational. What items have you got sitting around that could be transformed to help fight the pandemic?

Note: This report is being published by Arab News as a partner of the Middle East Exchange, which was launched by the Mohammed bin Rashid Al Maktoum Global Initiatives to reflect the vision of the UAE prime minister and ruler of Dubai to explore the possibility of changing the status of the Arab region.



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Innovative Saudi restaurateurs launch Saudi Arabia's first fresh food robot
Japanese robot startup launches 'connected' face mask

Tunisia PM Elyes Fakhfakh resigns

Wed, 2020-07-15 20:36

TUNIS: Tunisian Prime Minister Elyes Fakhfakh resigned on Wednesday, according to two official sources who did not want to be named, after a row with the Islamist-inspired Ennahdha party.

Fakhfakh, who is under investigation over allegations of conflict of interest, has had strained relations with Ennahdha, the biggest party in parliament, since October legislative elections.

Ennahdha had earlier Wednesday tabled a no-confidence motion against Fakhfakh, who took office in February after winning approval from lawmakers following four months of deadlock.

Ennahdha came top in the October polls but fell far short of a majority and eventually agreed to join a coalition government.

The party initially nominated an independent for premier but he failed to win the support of parliament, leading President Kais Saied to name former finance minister Fakhfakh for the post.

Fakhfakh is under investigation over alleged failure to hand over control of shares he owns in private companies that have won public contracts.



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[Egypt seeks clarification on word of Ethiopia filling dam](#)

Wed, 2020-07-15 19:17

CAIRO: Egypt has asked Ethiopia for urgent clarification on whether it had started filling its Grand Renaissance dam on the Blue Nile, the Foreign Ministry said on Wednesday.

It was Cairo's first official reaction after Ethiopia's water minister said earlier in the day that Addis Ababa had begun the filling, a day after talks with Sudan and Egypt, which both depend on Nile water, became deadlocked.

"The construction of the dam and the filling of the water go hand in hand," Ethiopian Water Minister Seleshi Bekele said in televised comments, a transcript of which was provided to Reuters by his office. "The filling of the dam doesn't need to wait until the completion of the dam."

The water level had increased from 525 metres to 560 metres, he said.

On Tuesday, talks between the three nations to regulate the flow of water from the dam failed to reach agreement.

UN spokesman Stephane Dujarric told reporters Secretary General Antonio Guterres had urged the three countries to "seize the opportunity in the coming days to bridge remaining differences and reach a mutually beneficial agreement for their peoples".

The dam, when finished, will have an installed capacity of 6,450 megawatts – more than doubling Ethiopia's existing capacity – and is the centrepiece of the country's bid to become Africa's biggest power exporter.

The dam is being built about 15 km (9 miles) from the border with Sudan.

Sudan and Egypt have sought a legally binding agreement before the dam is filled.

Sudan's Ministry of Irrigation and Water Resources said it was prompted to investigate after satellite images appeared to show the reservoir filling.

"It was evident from the flow meters in the Al-Deim border station with Ethiopia that there is a retreat in the water levels, equivalent to 90 million cubic meters per day, confirming the closure of the gates of the Renaissance Dam," it said in a statement.

Sudan rejects any unilateral actions taken by any party as negotiating efforts continue, it said.



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Satellite images show Ethiopian dam filling as talks failEgypt receives 48 international flights to Red Sea cities this month

[Time running out for Nazanin Zaghari-Ratcliffe's hopes of adding to family, says husband](#)

Wed, 2020-07-15 17:58

LONDON: Nazanin Zaghari-Ratcliffe, the British-Iranian national imprisoned by Tehran on charges of espionage, is running out of time if she is to have another child, according to her husband Richard Ratcliffe, who has appealed to Iran's Foreign Minister Mohammad Javad Zarif to release her on compassionate grounds.

Zaghari-Ratcliffe, 41, has been incarcerated in Evin Prison, north of Tehran,

since her arrest at the city's airport in 2016, during which time she has allegedly been denied access to medical treatment.

She has one child, her 6-year-old daughter Gabriella, who was with her when she was arrested and was repatriated to the UK last year.

Zaghari-Ratcliffe was released on temporary furlough to stay with her parents in Tehran as part of wider efforts to halt the spread of COVID-19 in Iran's prisons earlier this year, where she has since undergone a series of private medical tests on the recommendation of a former cellmate who had worked as a doctor.

Ratcliffe said the results of his wife's tests showed she had a less than 15 percent chance of conceiving another child.

"The discovery left her devastated. She spent the day crying looking at pictures of Gabriella," Ratcliffe said. "She reflected, 'I always used to tell myself in Evin that they can't take my future away. But now they have'."

He appealed to Zarif for his wife's release, saying: "Her hostage experience risks having a permanent legacy for our whole family. It is one thing to recover from losing over four years of your life to someone else's fights, but it will be quite a different recovery journey for us all if it also means we can never have another baby."

Ratcliffe added: "It is time to end this. Quite literally every month counts. There remains a little girl growing up without her mother still. I hope not a little girl without a sibling. This has been cruel enough."

Zaghari-Ratcliffe supposedly qualifies for permanent release under the terms of an amnesty for 3,000 prisoners to mark the end of Ramadan in May, declared by Iran's Supreme Leader Ali Khamenei.

But her appeal for clemency has been postponed, with fears that it will only be raised when a hearing in a debt case between the UK and Iran over the canceled sale of tanks in the 1970s begins in November. Zaghari-Ratcliffe's imprisonment has been linked to the dispute.

Iranian prosecutors, meanwhile, have warned that a second case, linked to comments made by UK Prime Minister Boris Johnson when he was foreign secretary about her being in Iran to train journalists, could be brought against her in the future. Those allegations could see a further sentence of five years were she to be convicted.

The UK Foreign Office said in a statement: "We have consistently urged Iran to make Nazanin's furlough permanent so she can return to her family in the UK.

"We will continue to do everything we can to help secure the release of all UK dual nationals arbitrarily detained in Iran."



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British-Iranian woman Nazanin Zaghari-Ratcliffe temporarily released from Tehran jail
UK summons Iran ambassador over case of British-Iranian aid worker Nazanin Zaghari-Ratcliffe

[UK calls for dialogue over Israeli annexation plan](#)

Wed, 2020-07-15 17:41

LONDON: UK Prime Minister Boris Johnson has called for dialogue to resolve tensions over the proposed annexation by Israel of parts of the occupied Palestinian territories.

Johnson spoke with Mahmoud Abbas, president of the Palestinian Authority, over concerns about Israel's plan, a week after discussing it with Israeli Prime Minister Benjamin Netanyahu.

Johnson "urged President Abbas to engage in negotiations and offered the UK's support to foster dialogue," a Downing Street spokesman said. "The leaders

agreed to continue to work together on this issue and others.”

On July 1, Johnson published an article in Israel’s Yedioth Ahronoth newspaper urging Tel Aviv not to push ahead.

“It is with sadness that I have followed the proposals to annex Palestinian territory. As a life-long friend, admirer and supporter of Israel, I am fearful that these proposals will fail in their objective of securing Israel’s borders and will be contrary to Israel’s own long-term interests,” he wrote.

Meanwhile, 11 European foreign ministers have written to the EU to ask for possible actions that the bloc could take to prevent the proposed annexation.

Ministers from Belgium, Denmark, Finland, France, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Sweden and Finland asked EU Minister for Foreign Affairs Josep Borrell to set out the “legal consequences” of the move, following an initial request made at a meeting in May.

The letter suggested that doing so could help members “deter annexation” by laying out to Israel the consequences of such action.

“The possible annexation by Israel of parts of the occupied Palestinian territory remains a matter of grave concern for the EU and its member states,” it said.

“We understand that this is a sensitive issue and timing is important, but time is also short. We are concerned that the window to deter annexation is fast closing.”

Moves to formally incorporate what could amount to up to 30 percent of the West Bank into Israel began with the signing of a coalition government agreement earlier this year, after Netanyahu made the issue a central pledge in his re-election campaign.

The EU relies on consensus among members to take steps in any direction on issues of foreign policy, but though some states have called for sanctions against Israel, others oppose punitive measures.

In June, over 1,000 European politicians signed a letter that condemned Israel, saying: “Acquisition of territory by force has no place in 2020 and must have commensurate consequences.”

A similar letter signed by 47 UN experts called Israel’s plan “a vision of a 21st-century apartheid.”

In February, Borrell said Israeli annexation would not be allowed to go “unchallenged.” However, US Secretary of State Mike Pompeo has said annexation is a matter for Tel Aviv.



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France asks Israel to drop West Bank annexation plans
UK PM Johnson tells Israel: do not annex parts of the occupied West Bank