

About Understanding Correctly the Group Project Topics:

Below are three examples that describe the correct interpretation of our Group Project Topics and their correct implementation in our MFE634 Quality Engineering class.

Migration Project

Our Project objective is independent of whether such migration is legal or illegal. We are trying to make it flow more efficiently and correctly. Migration from Turkey to Germany was performed by being smuggled on boats into Greece. Then, walk by land, without any support or authorization of intermediate countries (Serbia, Macedonia, Croatia, Slovenia, Austria, Hungary). Migrants drowned, were killed by smugglers or other migrants to rob them, children were kidnapped to be sold, women were raped, some got sick and went without medicine or treatment, others without food, most without shelter, etc.

Our project pursues to deal with these issues by recommending the creation of ferries for the sea segment, a processing office to know who are coming, a policing force to avoid crime, health care personnel and facilities to deal with the sick and avoid an epidemic, shelter and food along the way, at regular intervals, etc. How much would this cost and who would pay for it is another important part of the project. Justify such large cost by comparing it to COPQ (i.e. leaving things as they are, and absorbing its consequences).

Disaster Mitigation Project

You can take two approaches: prevention or dealing with it. Take hurricane in Louisiana. You can prepare for it, or you can evacuate the people during its devastation.

Prevention includes a study of New Orleans' wards: which ones are more prone to be submerged under the waters of the Mississippi river; where are you taking the people that lives there, how will you ensure electrical power, food, medicine, phone, etc. with all the flooding, how many people will you take care of, medical and police personnel, etc.

Evacuation includes calculating how many people will leave, the means (cars, buses, etc) and the ways (roads, bridges, etc) required, support (gas, mechanics, medical, police, etc.) personnel, places to have all these evacuees, once they leave New Orleans, food, water, medical supplies, doctors, nurses, police, etc. to operate such evacuation stations, etc.

Re-shoring of factories

Many factories were off-shored several years ago. Thence, its workers, technicians, engineers, office personnel, as well as its machines and tools, are all gone. Where are they going to build these re-shored factories? Find and train the new work force and new machines? What are they going to do with the factories currently in existence? Dismantle them, as was done with the old ones? Will the authorities of the foreign countries where these factories are now placed, let them dismantle such work places? Will these factories become the "competition" for the re-shored ones? How much will all this cost and take?

MFE634 Spring 2017 Team Quality Engineering topics:

Below you will find the eight projects that Student Groups will develop this semester. Each Group will choose one, implement weekly course topics, using them as working tools to analyze and improve the issues, and deliver a final product (Final Project) with the entire work.

1. An Epidemic Prevention operation (ZITA infection spread control)
2. An Industrial Rescue (Specific industrial re-shoring efforts)
3. A Demographic Crisis management (illegal immigration and repatriation)
4. An Industrial Production Disaster (Flint MI water system mismanagement)
5. A Health Care organization (Medicare system extension analysis)
6. A Weather Disaster Management (Baton Rouge, LA & Sandy Storm)
7. An Anti-Terrorism Prevention Operation (Airport access & safety control)
8. Total Electricity Loss Mitigation (Puerto Rico's generators burned down)

An important comment: the Spirit of these Final Project Topics is not evaluating their merits or demerits, or otherwise providing judgmental analysis about their possible flaws or virtues (this is the work of politicians and philosophers). As Quality Engineers, we are assigned a problem, and we need to find ways to improve these, which is what Quality Engineers do.

The eight project topics are:

1. **An Epidemic Prevention operation** (ZITA infection eradication/control): groups are interested in ways of preventing this disease to spread outside its original area
2. **An Industrial Rescue** (Specific industrial re-shoring efforts): solve problems arisen from re-shoring these jobs from abroad; define issues from repatriating them again
3. **A Demographic Crisis Management** (illegal immigration to US & repatriation): explore problems in sending them back, processing them here and t repercussions.
4. **An Industrial Production Disaster** (Flint MI water system mismanagement): problems derived from the discovery of water problems in public drinking system.
5. **A Health Care organization** (Medicare extension): managerial & other problems in extending the current Medicare system to a general customer population.
6. **A Weather Disaster Management** (Baton Rouge, LA & Sandy Storm): problems with providing aid to disaster zones & their cost in human, social, and other issues.
7. **An Anti-Terrorism Prevention Operation** (Airport access safety and control): passenger, crews, support personnel, baggage etc. inspection to prevent terrorism.
8. **Total Electricity Loss Mitigation** (Puerto Rico's generators burned down Sept. 2016) consequences include failures in water supply, air conditioning, traffic control, etc.

Past Project Topics

1. **An Epidemic Prevention operation** (*Ebola infection prevention/control*): we are interested in ways of improving this disease to spread outside its initial area
2. **An Industrial Rescue** (*manufacturing jobs re-shoring efforts*): problems have risen from taking these jobs away; find ways to solve them via repatriating them.
3. **An International Relief effort** (*Ebola eradication & international aid*): ways of improving eradication efforts of Ebola in the areas where they have grown.
4. **A Health Insurance organization** (*Obama-Care & internet deployment*): the big problems occurred in the deployment of the Web Page for obtaining the Health Insurance this law provides (not the merits/demerits of this law)
5. **A Health Care organization** (*Veterans Administration hospital system*): the serious administrative problems occurred in VA, that led to the Resignation of the Secretary of the VA (who was a minister in the Obama cabinet) & ways to improve.
6. **A Judicial Organization** (*US prison/incarceration systems*): problems associated with large prison population (cost, human, social, etc.) & ways to improve on them.
7. **A Charitable/Service Organization** (*Habitat for Humanity*): problems occurred, and ways to improve on the deliverance of their services, especially abroad.
8. **A Government Organization** (*USAid: Agency for Int'l Development*): problems of providing foreign economic aid, and ways to resolve, or improve on them.
9. **An International Relief effort** (*Refugee migration into Europe*): solve problems in the resettlement of war refugees in European countries where they have arrived.
10. **A Health & Social organization** (*Syrian war refugee resettlement camps*): solve problems in the organization of refugee camps (health, education, law & order, etc.)
11. **An Industrial Organization** (*Volkswagen emissions disaster*): problems derived from the recent discovery of unauthorized devices to hide real vehicle emissions and ways to resolve or improve this situation.