

The ITERA National Student Case Competition
2018-19 Case

Introduction

This is “Lucky 13” for the case study competition. Each case, whether based in a corporate, government, healthcare, leisure living, higher education, or other context has been adapted from real world problems and circumstances. It allows student competitors to apply what they are learning in ITERA member school programs to solve real problems.

This is the first time the case context has focused on the K-12 education environment where there are well over 50,000 school districts attempting to educate the young people in our local communities at a time when economic challenges are significant in many, where violent attacks are a recurring danger, and when the young are perhaps more distracted from education than ever before.

It is a fertile ground for creative problem solving in a technologically driven world. It is also a very large and good market.

The Nightsong Opportunity

The Setting

The following case represents a spin or two from a very real one. It could be your hometown or one nearby.

The setting is in a mid-sized community, Hopeville, like very many other mid-sized communities....population about 80,000....and the problems are common. The population has fallen about 18,000, down from almost 100,000 over the last two census counts. Industry, at least 50% of it, has departed for greener pastures and thus, the K-12 school population has shrunk by about 25%, down from about 7000 to 5700+/- . The typical level of business support for the community has shrunk as has the community’s image as an opportune and good place to live.

There is a local campus of a state university, Pleasant State University, in the community and with 12,000 students and 1500 faculty and staff; it is now the largest employer. There are also 3 sizeable charter schools and 2 religious schools, all K-12 based in the local area.

The Problem

The community had a reasonable history of decent schools, good employment, stability, and relative affluence, but as the downturns and losses of jobs accumulated the ripple effect hurt the tax base, the local businesses, and the community reputation. The local politicians tried to be

entrepreneurial, but as is often the case, they burned millions of tax payer dollars on failed new schemes to attract new opportunities.

The elected K-12 school boards tried to adjust to a shrinking population but caved to community pressure when they tried to close local schools which were no longer justifiable, and they caved in to teacher's union pressure when they tried to shrink the teaching population or to adjust some class sizes or to decrease some undersized or overly costly academic or after school programs.

The result was predictable. The K-12 school system is now over \$20 million in debt and would have gone bankrupt without a temporary bailout from the state via the state board of education, which left this K-12 district in receivership and subject to mandatory state management.

The state management, normally placed with an independent consulting group, comprised of retired school superintendents, has instead been entrusted to the local state university which has been ordered to appoint a new school board, via legislative intervention, and to help restore the school system to viability. Among other reasons for this it was assumed that the local schools' impact on hiring new university faculty and on local real estate would be a principle motivating factor in achieving a successful turnaround. The quality or perceived quality via test results of the school system has also suffered as might be expected.

The Nightsong Opportunity

Shortly after World War II Gustov Nightsong created what became a highly profitable insurance company and later he developed a very profitable investment firm. He also later created the Nightsong Foundation dedicated to community development and education, primarily K-12. Since he had been committed to using technology in his businesses, his two sons and his daughter, who took over leadership of his foundation on his death, have often supported creative technology applications in K-12 projects. The Nightsong Foundation headquarters is located in this community of Hopeville.

The Challenge

You have been asked by Pleasant State University to develop a technology plan for Hopeville Community Schools. Nightsong Foundation has offered to fund an acceptable plan and to give an additional matching grant of \$2 for each \$1 spent to enhance technology to help the ailing school system.

The three Nightsong offspring bring differing priorities to projects they review for funding. Karl, V.P. of the Foundation and a former U.S. Marine, is very concerned about security in schools. After the recent shootings in K-12 across the country this is an area of great concern. Ludwig, Treasurer of the Foundation and the son who still is at the helm of the businesses, is concerned with applying technology to make things work better....strategic and practical...and

while very open to new technologies and new applications, he is adamantly opposed to tech for the sake of tech. It must be justified as improvement.

Finally, Silvana is the foundation President and the offspring who searches for creativity and unusual, but helpful applications, especially for classroom and teacher/student learning tools.

Thus, while proposed solutions are not necessarily constrained by cost, they must be solidly justified and they must include some appeal to each of the Nightsong Foundation officers. Because of the matching funds being provided there is likely to be little to no objection to solutions you propose from the school board, as long as your plan can be justified.

The list of school buildings and critical information which you may need follows.

High School – 1470 students, student/teacher ratio = 16:1, attendance 93%, 10 exits to building. Footprint = 190 yards wide x 300 yards long with 60x100 yard second floor, 95 classrooms.

Middle School A = 580 students, student/teacher ratio = 13:1, attendance = 95%, 10 exits to building, footprint = 140 yards wide x 200 years long with 70x100 yard second floor, 47 classrooms + 5 vacant

Middle School B = 650 students, student/teacher ratio = 17:1, attendance 96%, 10 exits to building footprint = assume same as middle A, 46 classrooms + 3 vacant

Elementary School C = 260 students, student/teacher ratio = 14:1, attendance = 96%, 10 exits, 19 classrooms + 12 vacant, footprint 70 yards wide x 100 yards long

Elementary School D = 340 students, student/teacher ratio = 17:1, attendance = 95%, 10 exits to building, 22 classrooms + 9 vacant, footprint is same as elementary school C

Elementary School E = 420 students, student/teacher ratio = 19:1, attendance = 95%, 10 exits to building, footprint (assume same as Elementary School C), classrooms = 25 + 6 vacant

Elementary School F = 340 students, student/teacher ratio = 21:1, attendance = 96%, 10 exits to building, footprint (assume same as Elementary School C), 18 classrooms + 13 vacant

Elementary School H = 280 students, student/teacher ratio = 19:1, attendance = 97%, 10 exits to building, footprint (assume same as Elementary School C), classrooms = 17 + 14 vacant.

Elementary School I = 350 students, student/teacher ratio = 19:1, attendance = 95%, 10 exits to building, footprint (assume same as Elementary School C)

Elementary School J = 410 students, student/teacher ratio = 16:1, attendance = 96%, 10 exits to building, footprint (assume same as Elementary School C), classrooms = 27+ 4 empty

Elementary School K = 250 students, student/teacher ratio = 16:1, attendance = 96%, 10 exits to building, footprint (assume same as Elementary School C), classrooms = 17 + 14 empty

“Special Youth” School Opportunity Center (SYSOC) = 124 students, student/teacher ratio = 8:1, (This environment is for troubled students and has grades K-12 in one facility and the numbers are very fluid.) K = 0, First Grade = 0, Second Grade = 1, 3rd = 2, 4th = 2, 5th = 6, 6th = 0, 7th = 9, 8th = 22, 9th = 27, 10th = 28, 11th = 21, 12th = 6.

While the SYSOC has been operating in “downtown rental” facilities for the past few years, with at least two moves over the last 4 years, the plan is to seek a permanent location with at least 13-16 rooms for future.

No useful footprint nor exits are provided but you are expected to include them in your plan.

The Context

There is currently an administration building with the superintendent and 10 administrative staff and 30 support staff including a facilities team of 13, and an IT team of 3, a security team of 8, and others housed in a former elementary school. Within an 8 mile radius is a 14 building complex scattered throughout the community. This building has wireless and WiFi in all 29 rooms or offices.

The school buildings currently have a building to building network for administrative purposes. Comcast provides the network and each building has CAT 5 wiring from the “POP” to the administration office and to labs. Otherwise, the buildings have 1-4 computer labs networked to a server in each lab and that is it other than each teacher has a laptop. There is limited WiFi for teachers/staff. Each classroom has a projector so teachers can hookup their laptops for Power Point or other presentations.

Your TARGET Audience and Scope

1. Your proposed “tech plan” will be reviewed by the three Nightsong Executives, the Superintendent of Schools, a member of the school board who has experience with tech in his/her business and a consultant with a history of tech projects in schools.
2. Your plan, including a required 2 page executive summary, may not exceed 15 pages in length, though you may attach appendices to that. In total, with appendices, you may not exceed 20 pages.

3. You must be comprehensive and address all 13 buildings in the district, depending on the data provided to you above. You may use approximations and assumptions as needed, but be clear. (You need not address the administration building directly, but it must work within the network...or if you can justify it, you may address it too.)
4. You must provide justification and an approximate budget with the plan.

Deliverables

Your technology plan must focus on the following:

1. You must address the fundamental “connectivity” and access to necessary “information tools” issue for this K-12 complex, both between schools and within buildings, (a sample diagram or two might help)
2. You must offer responsible security related solutions for the school buildings.
3. You need to consider the kinds of creative teaching and learning tools which may be helpful to improve the schools in terms of student engagement and reputation improvement. (This is classroom based.)
4. You must offer an approximate (close) budget for your plan which is justified via practicality and good business sense.
5. Throughout your solution you must focus on benefit to the users; and,
6. Overall, the plan must be persuasive to the total “community” as it tries to get its schools back on track.
7. Finally, you must remember the ultimate source of your funds and appeal to the Nightsong Foundation.

The Rules

1. Eligibility
The ITERA National Case Study Challenge is for ITERA member programs and each program is responsible for the selection process resulting in its representative team.
2. The Team
Teams may be comprised of undergrad, grad, or a mix of grad and undergrad students. Each team may have no more than 5 members. Each program may field only one team.
3. Faculty Sponsor
Each team must have a faculty sponsor who is to notify the ITERA Case Competition Chair (Dr. Ray Steele rstele@bsu.edu) of their team’s intent to participate by Friday, December 7, 2018.
4. The Paper
The paper should include a 2 page executive summary and, including all appendices, diagrams, and content, not exceed 20 pages in total. Double spacing, page numbers, and reasonable margins, plus any reasonable writing and documentation style is acceptable.

5. Paper submission

Papers must be submitted electronically to rsteele@bsu.edu by Monday, January 28, 2019, in PDF format except for the cover page. The cover page is the only location where the program or its campus and the team of authors are to be identified to facilitate the “blind judging” process. The cover page must also include the faculty sponsor and his/her contact information.

6. Judging and Announcement of Finalists

The judging of papers will be completed in February and winners announced by early March. Winning teams will advance to the ITERA annual conference tentatively set for April 2019. Winning teams typically receive housing and free registration to the conference.

7. The Finals

Finalists will do team presentations (20 minute maximum) at the ITERA conference and face questions on their proposal from a team of judges.

The winning team shares a cash prize along with appropriate recognition for their program at the annual awards dinner at the conference.

8. Questions

All questions on the case are to be submitted via email to rsteele@bsu.edu by Friday, November 9, 2018, at 5:00pm. (Faculty sponsors may arrange a conference call with Dr. Steele (765-215-5732) and their teams if needed.)

Responses will be provided via email to faculty sponsors of teams having submitted their intent to compete.

9. Judging Criteria

Judging will be done by a group of subject area experts and ITERA faculty. General criteria include:

- a. How well the proposal addresses the problem, overall, or completeness;
- b. Does the proposed technology offer practical solutions to the three areas of most significant concern for the foundation officers;
- c. Does the proposed solution offer the intended users sensible solutions; and,
- d. Does the budget credibly suggest “value” based solutions which can be justified as beneficial overall?

10. Additional Issues

Printed handouts for judges at the finals are allowed but not required. Please be aware that finals judges may have only read the executive summary from your papers.