## MICHIGAN STATE UNIVERSITY

# 11/06: Ethics and Professionalism

#### The Capstone Experience

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#### **Caveat Emptor**

- Opinions Expressed
  - Our Own
  - Do Not Represent MSU
- Not an Attorney
- No Warranty

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#### Ethics vs Law

#### Ethics

- "Good" vs "Evil" or "Right" vs "Wrong"
- Moral Judgment
- Choice
- Law
  - Legal vs Illegal
  - Legal Judgment
  - No Choice

### Professional/Corporate Ethics

- Set by...
  - Professional Society
  - Licensing Agency
  - Government
  - Company
  - Etc...
- Must obey if you want to...
  - ...be a member
  - ...be licensed
  - ...do business
  - ...keep your job
  - ...etc.

Really More Like Law

#### Lots of Variables

- Who Your...
  - ... Employer Is
  - ...Customers Are
- Very Different Rules/Laws/Policies
  - Industry
    - Privately Held
    - Publically Held
  - Government
  - Government Contractor
  - Educational Institution
  - Etc...



#### Resources

- National Society of Professional Engineers
- ACM
- IEEE
- Royal Academy of Engineering

(Google "engineering ethics")

ACM [1 of 5]

- Code of Ethics and Professional Conduct
- 1. General Moral Imperatives
- 2. More Specific Professional Responsibilities
- 3. Organizational Leadership Imperatives
- 4. Compliance with the Code
- 5. Acknowledgements

**ACM** [2 of 5]

#### 1. General Moral Imperatives

- 1. Contribute to society and human well-being.
- 2. Avoid harm to others.
- 3. Be honest and trustworthy.
- 4. Be fair and take action not to discriminate.
- 5. Honor property rights including copyrights and patent.
- 6. Give proper credit for intellectual property.
- 7. Respect the privacy of others.
- 8. Honor confidentiality.



**ACM** [3 of 5]

#### 2. More Specific Professional Responsibilities

- 1. Strive to achieve the highest quality, effectiveness and dignity in both the process and products of professional work.
- 2. Acquire and maintain professional competence.
- Know and respect existing laws pertaining to professional work.
- 4. Accept and provide appropriate professional review.
- 5. Give comprehensive and thorough evaluations of computer systems and their impacts, including analysis of possible risks.
- 6. Honor contracts, agreements, and assigned responsibilities.
- 7. Improve public understanding of computing and its consequences.
- 8. Access computing and communication resources only when authorized to do so.

ACM [4 of 5]

#### 3. Organizational Leadership Imperatives

- Articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.
- Manage personnel and resources to design and build information systems that enhance the quality of working life.
- 3. Acknowledge and support proper and authorized uses of an organization's computing and communication resources.
- 4. Ensure that users and those who will be affected by a system have their needs clearly articulated during the assessment and design of requirements; later the system must be validated to meet requirements.
- 5. Articulate and support policies that protect the dignity of users and others affected by a computing system.
- 6. Create opportunities for members of the organization to learn the principles and limitations of computer systems.



ACM [5 of 5]

#### 4. Compliance With The Code

- 1. Uphold and promote the principles of this Code.
- Treat violations of this code as inconsistent with membership in the ACM.

IEEE [1 of 2]

We, the members of the IEEE, in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to the highest ethical and professional conduct and agree:

- 1. to accept responsibility in making decisions consistent with the safety, health and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;
- 2. to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;
- 3. to be honest and realistic in stating claims or estimates based on available data;
- 4. to reject bribery in all its forms;
- 5. to improve the understanding of technology, its appropriate application, and potential consequences;



IEEE [2 of 2]

6. to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;

- to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;
- 8. to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;
- 9. to avoid injuring others, their property, reputation, or employment by false or malicious action;
- 10. to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.



#### School World vs. Work World

#### What happens if you break the "rules"?

- School World?
  - Slap on the Wrist
  - Flunk an Assignment or Course
  - Kicked Out of School (...but Go to a New School)
  - Etc...
- Work World?
  - Fired
  - Blacklisted or Denylisted
  - Prosecuted
  - Fined
  - Go to Jail
  - Etc...



### Ethical / Legal Issues

- Is it...
  - ...ethical
  - ...legal
- ...for...
  - ...University
  - ...Employer
  - ...Government
- ...to monitor...
  - ...email?
  - ...internet usage?
  - ...text messages?
  - ...phone usage?



Use of Email

[1 of 2]

- Institutional vs. Personal
- Policies/Legalities
   May be...
  - Against Company Policy
  - Public Information (FOIA-able)
  - Subpoena-able
  - Etc.
- Etiquette

#### Watch...

- To Whom You Write
- What You Write
- How You Write
- To Whom You cc and bcc
- Reply All
- Etc.



[2 of 2]

- Never Compose or Send Email When Mad
- If Mad...
  - Create and write a Word document.
     (Do not create a draft using a mail client.)
  - Let it sit for 24 hours.
  - Edit it after 24 hours.
  - Ask someone you trust to read it.
  - Evaluate the pros and cons of sending it.
  - Be careful whom you cc and bcc.

#### Use of Social Media

- Your Social Media Presence
  - Clean Up
  - Be Very Careful
  - Avoid?
- Including
  - Discord
  - Facebook
  - Twitter
  - Instagram
  - TikTok
  - Personal Web Pages
  - Etc...

HR people will and do check these things out. What about your 1st Amendment rights?

- Can Get You Fired
- Even if Not Your Post
- Be Cognizant of Who's Around
  - Public
  - Private

### Use of Hardware/Software

- Institutional vs. Personal
- Often Locked Down
- May Be Specific Policies
  - Use
  - Loading Software
  - Etc.
- Software "Borrowed" From...
  - Relative or Friend
  - Bit Torrent
  - Open Source
  - Etc.



- Your manager asks you to write a library in C# to handle linked lists, including functions like insert, delete, sort, search, etc.
- You google "C# linked list" and find a very well written, very well documented library that does most of what you need.
- The web site explicitly says that everyone and anyone is free to use the library for any purposes whatsoever for free and forever.
- You download the library, add a bit of functionality, and submit it to your manager for inclusion in your company's new product.
- Is this ethical? Legal? Who owns what?

- You miss a meeting for your capstone team.
   You were at a party, but you tell your teammates that you were sick.
- You are being deposed under oath and you say that you missed your capstone meeting because you were sick when you were really at a party.
- Are these ethical? Legal?

(Note: Rules and consequences change after graduation. Be careful!)

- For your English literature class you are assigned a paper on Emily Bronte's novel Wuthering Heights. You buy a paper on termpaper.com and submit it.
- You work for a consulting firm and are assigned the task of evaluating routers and writing a whitepaper for a client. You google and find performance data and writing, which you use in your paper.
  - How about if you just use a great overview of routers and router technology?
- Are these ethical? Legal?

- You work at a company that stores sensitive data (SSNs, medical records, social service records, etc.). You have access to data, and download them to your notebook computer, and bring it home to finish a report.
- You also back up a copy of the data to your home computer in order to work at home.
- Is this ethical? Legal?

- You work as a software engineer on medical equipment. The project is late, and the software does not work to specifications. You think the issues are safety critical, but your manager, who has managed these kinds of projects for years, says it's of no concern. And, after all, the project is late and over budget.
- What should you do? What would you do?

- You have an idea for a company and a web site.
   You hire another MSU student to do some design work and initial programming.
- The student never does any work for you.
   Instead, he/she goes off and start his/her own competing company and web site based on your ideas.
- His/her web site is a phenomenal hit. His/her company is valued at ~ \$255B. Your company is valued at \$0.
- Is this ethical? Legal?

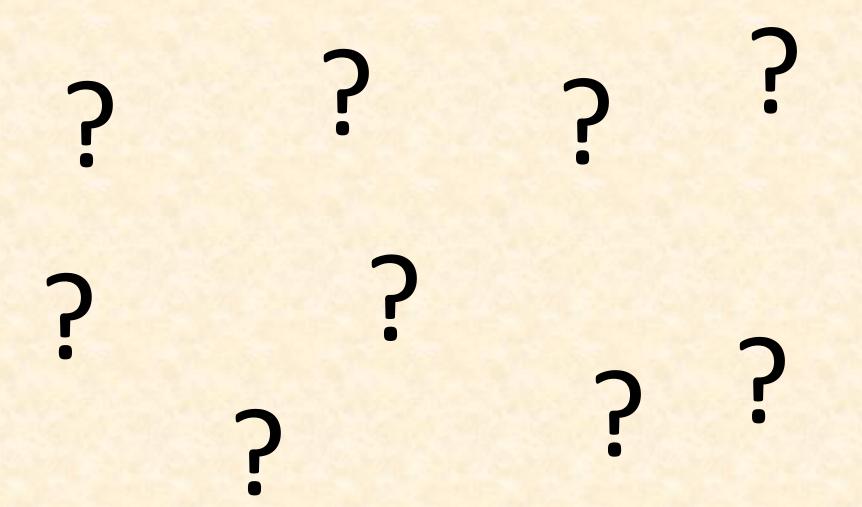
### Ethical/Legal Scenarios: Freebies

From a customer and/or vendor can you accept...

- ...shirts? SWAG?
- ...lunch or dinner?
- ...golf outing in Florida?
- ...golf clubs?
- ...educational cruise in the Bahamas?
- ...consulting contract for you?
- ...consulting contract for a family member?
- ...job for a family member?
- ...etc...?



### Questions?





- Upcoming Meetings
  - W10 11/04: Tu Conner Bean, Stripe
  - **W10 11/06: Th Ethics and Professionalism**
  - W11 11/11: Tu Beta Presentations
  - W11 11/13: Th Beta Presentations
  - W12 11/18: Tu Beta Presentations
  - W12 11/20: Th Project Video Status Report
  - W13 11/25: Tu Project Video Status Report
  - W13 11/27: Th Thanksgiving



- Upcoming Meetings
  - W14 11/30: Su Project Videos Due
  - W14 12/02: Tu Project Videos
  - W14 12/03: We Team Evaluation Forms Due
  - W14 12/03: We All Deliverables
  - W14 12/04: Th Design Day Setup
  - W14 12/04: Th Project Videos
  - W14 12/05: Fr Design Day
  - W15 12/10: Th Design Day Wrap Up (10:00 a.m. 12:00 p.m.)



[1 of 2]

- Start
  - Tuesday, November 11
  - 1.0 Weeks From Thursday ← Note
- Slide Decks
  - Due Monday, November 10
  - Upload to "Beta Presentation Slide Decks"
- Demonstrate Working
  - Software
  - Hardware
- 100% Feature Complete ← Note
- 10% of Final Grade
- Test
  - Everything
  - In Presentation Room
  - In Advance



#### Outline

- Brief Project Overview (Elevator Pitch)
- (Skip Architecture Diagram and Screen Shots Slides)
- Software Demonstration
  - Three Use Cases
  - Follow Marshall Plan
    - » What
    - » So What
    - » Now What ← Nota Bene
- OBrief Summary of What's left to do?
- Use Entire 15 Minutes



#### Read Me

[1 of 2]

#### Presenting

- The purpose of the Beta Presentation is to demonstrate that the software portion of the project is complete. While the system may need a little debugging and a little user interface upgrades, the software is expected to be feature complete and delivered to your client on time (Wednesday, April 23).
- The time limit for your presentation is 15 minutes, which will be strictly enforced. Practice your presentation to ensure that you will finish within the allotted time.
- Each team will present using their own laptop. You will be provided with a wireless presenter. Ask your TM for adapters to connect the laptop that you will be using to the audio/visual equipment in your presentation room. Test <u>in advance</u> in the room in which you will presenting with the laptop you will be using.
- We will meet in "split-hands" meetings. Luke's teams will meet in 1249 Anthony Hall, Griffin's teams will meet in 2400 Engineering, and Jared's teams will meet in 1345 Engineering.
- Plan on spending most of your presentation demonstrating use cases of your software. A suggested approach is as follows.
  - Brief Project Overview (Your Elevator Pitch)
  - Software Demonstration of Use Cases (Skipping Architecture Diagram and All of the Screen Shot Slides in Your Slide Deck)
  - Brief Summary of What's left to do?
- Your presentation should be professional, well rehearsed, and flow from beginning to end. Practice presenting in a suitable room. Ensure that your slides are readable. Practice demonstrating your software. Practice switching from one team member to another.
- Think of your Beta presentation as a preview of your project video.
- Give live demos on actual hardware, rather than using screen recordings or simulators.
- As a backup to live demonstrations, make screen recordings of your software demonstrations using Camtasia in advance.
- Although the presentations will be scheduled over the course of four meetings, all teams must be prepared to present on the first day scheduled, Tuesday, November 11.
- The presentation schedule will be posted on our <u>Weekly Schedule</u> page in the evening of Monday, November 10.



#### READ ME

[2 of 2]

#### Creating and Editing

- Read and follow the instructions in "Editing Documents and Presentations Using Office 365" of our course syllabus.
- You must use this PowerPoint slide deck template as is. Do not change the number of slides unless the instructions explicitly allow you to duplicate slides. Do not change the order of the slides. Do not change the styles. Do not edit the master slides.
- Throughout the template, replace placeholders [...] with the appropriate information.
- Edit the center footer by clicking the Header & Footer button on the Insert ribbon. Change [Team Name] in the footer to your company name as in "Team TechSmith Beta Presentation". If necessary, extend the width of the center footer textbox on the master slide, making sure that you re-center the enlarged textbox.
- Do not include any company confidential information in your presentation.
- Delete every textbox that includes "Delete this textbox" and every slide that includes "Delete this slide."

#### Submitting

- All presentations are due to us and to your client by 11:59 p.m., Monday, November 10.
- Name your PowerPoint slide deck file as "team-[team-name]-beta-presentation.pptx" replacing "[team-name]" with your team's name normalized by using all lower case, deleting non-numeric and non-alphabetic characters, and replacing blanks by dashes. Examples include "team-kohls-beta-presentation.pptx" and "team-delta-dental-beta-presentation.pptx". Set File Explorer or Finder to show all file extensions to ensure that there are no blanks before the ".pptx" extension as in "team-amazon .pptx".
- Upload your PowerPoint slide deck to the folder "Beta Presentation Slide Decks" in our Microsoft Teams General Channel file space by 11:59 p.m., Monday, November 10. In addition, upload your slide deck to your team's private channel file space in case your slide deck is deleted by accident from the General Channel file space, and you need to prove that you did indeed upload your slide deck by the due date and time.
- Email a copy of your slide deck to your client as well by 11:59 p.m., Monday, November 10. Do not cc us on that email. Include some professional text in the body of your email to practice being a professional and to avoid having your email sent to your project sponsor's junk folder.



## MICHIGAN STATE UNIVERSITY

# Beta Presentation [Project Title 36pt]

#### The Capstone Experience

Team [Team Name 24pt]

[Team Member 1 16pt]

[Team Member 2 16pt]

[Team Member 3 16pt]

[Team Member 4 16pt]

[Team Member 5 16pt]

[Team Member 6 16pt]

Department of Computer Science and Engineering
Michigan State University



### **Project Overview**

- Point 1
- Point 2
- Point 3
- Etc...



#### Team Member's Technical Tasks

For each team member, list the major technical tasks assigned to them and completed by them. Only include technical tasks. Do not include things like creating documents or slide decks.

This is a reference slide so it may be wordy. Ideally, the Completed column should match the Assigned.

Delete this textbox.

#### **Technical Tasks Assigned**

- Team Member Name 1
  - Task 1
- Task N
- Team Member Name 2
  - Task 1

  - Task N
- Team Member Name 3
  - Task 1

  - Task N
- Team Member Name 4
  - Task 1

  - Task N
- Team Member Name 5
  - Task 1

  - Task N
- Team Member Name 6
  - Task 1

  - Task N

#### **Technical Tasks Completed**

- Team Member Name 1
  - Task 1
- Task N
- Team Member Name 2
  - Task 1
- Task N
- Team Member Name 3
  - Task 1

  - Task N
- Team Member Name 4
  - Task 1

  - Task N
- Team Member Name 5
  - Task 1
- Task N
- Team Member Name 6
  - Task 1

  - Task N



## System Architecture

Include your system architecture diagram from your Project Plan presentation.

Update or redo your system architecture diagram if you were asked you to do so in your alpha presentation feedback.

### [Title of Screen Shot 1]

You must include at least four screenshots.

Include actual screen shots (i.e., not mockups), replacing [Title of Screen Shot] with an appropriate title.

You may duplicate the Screen Shot template slide as needed.

The screen shots should not contain any bordering transparent or whitespace. Use paint.net to crop them appropriately. 

Read this carefully.

If a slide contains more than one screen shot or additional artwork (like arrows), group all of the items into a single grouping so that it can be copied-and-pasted and resized as a single unit. 

Read this carefully.



### [Title of Screen Shot 2]

You must include at least four screenshots.

Include actual screen shots (i.e., not mockups), replacing [Title of Screen Shot] with an appropriate title.

You may duplicate the Screen Shot template slide as needed.

The screen shots should not contain any bordering transparent or whitespace. Use paint.net to crop them appropriately. 

Read this carefully.

If a slide contains more than one screen shot or additional artwork (like arrows), group all of the items into a single grouping so that it can be copied-and-pasted and resized as a single unit. 

Read this carefully.



### [Title of Screen Shot 3]

You must include at least four screenshots.

Include actual screen shots (i.e., not mockups), replacing [Title of Screen Shot] with an appropriate title.

You may duplicate the Screen Shot template slide as needed.

The screen shots should not contain any bordering transparent or whitespace. Use paint.net to crop them appropriately. 

Read this carefully.

If a slide contains more than one screen shot or additional artwork (like arrows), group all of the items into a single grouping so that it can be copied-and-pasted and resized as a single unit. 

Read this carefully.



### [Title of Screen Shot 4]

You must include at least four screenshots.

Include actual screen shots (i.e., not mockups), replacing [Title of Screen Shot] with an appropriate title.

You may duplicate the Screen Shot template slide as needed.

The screen shots should not contain any bordering transparent or whitespace. Use paint.net to crop them appropriately. 

Read this carefully.

If a slide contains more than one screen shot or additional artwork (like arrows), group all of the items into a single grouping so that it can be copied-and-pasted and resized as a single unit. 

Read this carefully.



### What's left to do?

Do NOT modify the title of this slide in any way. List your what's-left-to-do items on this one slide in bullet points.

Delete this textbox.

- Features
  - Feature 1
  - Feature 2
  - Feature 4
  - Feature 4
- Stretch Goals
  - Stretch Goal 1
  - Stretch Goal 2
  - Stretch Goal 3
  - Stretch Goal 4
- Other Tasks
  - Other Task 1
  - Other Task 2
  - Other Task 3
  - Other Task 4

Give a list of the major tasks that you need to accomplish to complete your project.

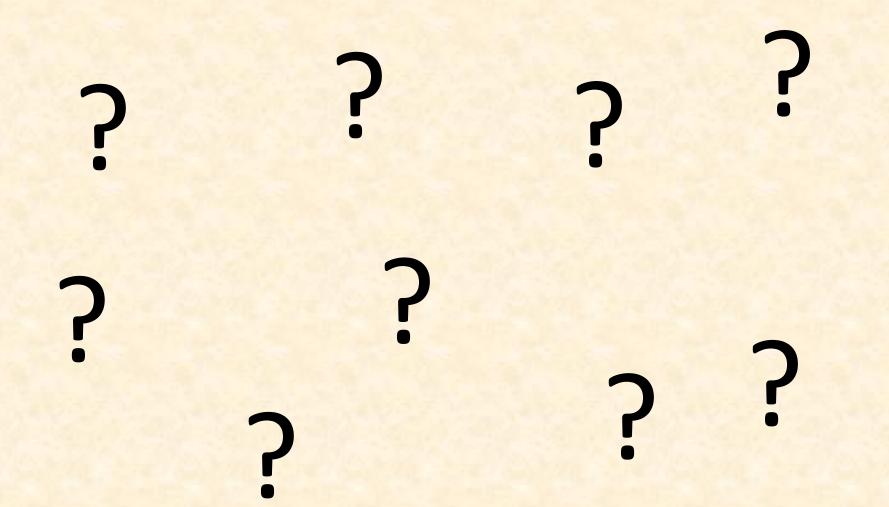
Your project is expected to be feature complete, so you should <u>not</u> have a features left to do. But, if you do, be honest and list them here. If you do not, simply delete the sub-bullets "Feature 1"..." Feature 4."

Only include tasks that are relevant to your software system.

Do NOT include tasks such as "Polish the UI" or "Create Project Video."



### Questions?





### Read Me

[1 of 2]

### Presenting

- The purpose of the Project Video Status Report Presentation is to convince everyone that your team has made significant progress on your project video and will be able to complete it by the due date, Sunday, November 30.
- The time limit for your presentation is 5 minutes, which will be strictly enforced. Practice your presentation to ensure that your team will finish within the allotted time of 5 minutes.
- We will meet in "split-hands" meetings. Luke's teams will meet in 1249 Anthony Hall, Griffin's teams will meet in 2400
   Engineering, and Jared's teams will meet in 1345 Engineering.
- Dr. D. will combine the individual team slide decks into multiple slide decks, one for each TM.
- Your TM will project the combined slide decks using their laptop, which your team will use for your presentation.
- Your team may have one or more presenters.
- The order in which the teams will present will be random.

#### Creating and Editing

The Capstone Experience

- Read and follow the instructions in "Editing Documents and Presentations Using Office 365" of our course syllabus.
- You must use this PowerPoint slide deck template as is. Do not change the number of slides unless the instructions explicitly allow you to duplicate slides. Do not change the order of the slides. Do not change the styles. Do not edit the master slides.
- Throughout the template, replace placeholders [...] with the appropriate information.
- For each of the status report slides, replace the placeholders between "[" and "]" with honest actual values like "Yes" or "10" or "75%". Do NOT add or delete bullet points.
- Edit the center footer by clicking the Header & Footer button on the Insert ribbon. Change [Team Name] in the footer to your company name as in "Team TechSmith Project Video Status Report Presentation". If necessary, extend the width of the center footer textbox on the master slide, making sure that you re-center the enlarged textbox.
- Do not include any company confidential information in your presentation.
- Delete every textbox that includes "Delete this textbox" and every slide that includes "Delete this slide."



### READ ME

[2 of 2]

### Submitting

- All presentations must be submitted to us and to your client by 11:59 p.m., Wednesday, November 19.
- Name your PowerPoint slide deck file as "team-[team-name]-project-video-status-report-presentation.pptx" replacing "[teamname]" with your team's name normalized by using all lower case, deleting non-numeric and non-alphabetic characters, and replacing blanks by dashes. Examples include "team-kohls-project-video-status-report-presentation.pptx" and "team-deltadental-project-video-status-report-presentation.pptx". Set File Explorer or Finder to show all file extensions to ensure that there are no blanks before the ".pptx" extension as in "team-amazon .pptx".
- Upload your PowerPoint slide deck to the folder "Project Video Status Report Presentation Slide Decks" in our Microsoft Teams General Channel file space by 11:59 p.m., Wednesday, November 19. In addition, upload your slide deck to your team's private channel file space in case your slide deck is deleted by accident from the General Channel file space, and you need to prove that you did indeed upload your slide deck by the due date and time. Set File Explorer or Finder to show all file extensions to ensure that there are no blanks before the ".pptx" extension as in "team-amazon .pptx".



# MICHIGAN STATE UNIVERSITY Project Video Status Report Presentation [Project Title 36pt] The Capstone Experience

Team [Team Name 24pt]

[Team Member 1 16pt]

[Team Member 2 16pt]

[Team Member 3 16pt]

[Team Member 4 16pt]

[Team Member 5 16pt]

[Team Member 6 16pt]

Department of Computer Science and Engineering
Michigan State University



Fall 2025

# Team [Team Name] Project Video Status Report

[1 of 4]

- Storyboarding
  - Introduces Client Company: [Yes or No]
  - Provides Motivation for Project: [Yes or No]
  - Number of Use Cases Illustrated: [0 or 1 or 2 or...]
  - Includes Technical Details: [Yes or No]
  - Includes Acknowledgements: [Yes or No]
  - Projected Length in Minutes: [~8]
  - % Complete: [0% to 100%]



### Team [Team Name]

### Project Video Status Report

[2 of 4]

- Narration Script
  - Number of Words Written: [non-negative integer]
  - Written: [0% to 100%]
  - Selected Narrator(s): [Yes or No]
  - % Recorded: [0% to 100%]
- Camtasia
  - Installed: [Yes or No]
  - Test Drove: [Yes or No]
- Audio Recording
  - Microphone
    - Found Quiet Place to Record: [Yes or No]
    - Recorded Something: [Yes or No]
  - Imported Recorded Audio Into Camtasia: [Yes or No]



### Team [Team Name]

### Project Video Status Report

[3 of 4]

- Camtasia Screen Recording
  - Test Drove: [Yes or No]
  - Number of Minutes Recorded: [non-negative integer]
  - % Complete: [0% to 100%]
- Camtasia Editing
  - Imported Camtasia Screen Recording: [Yes or No]
  - Imported Narration Audio: [Yes or No]
  - Imported Music Audio: [Yes or No]
  - Figured Out Callouts: [Yes or No]
  - Figured Out Pan/Zoom: [Yes or No]
  - Produced Test Videos: [Yes or No]
  - Tested Visibility of Text on Microsoft Teams: [Yes or No]



# Team [Team Name] Project Video Status Report

[4 of 4]

- Camtasia Production
  - Produced Test Video: [Yes or No]
  - Produced Test mp4: [Yes or No]
  - Tested Visibility in Meeting Space: [Yes or No]
  - Tested Audibility in Meeting Space: [Yes or No]



### Questions?

