

Repository Entry for CS 179  
 Embedded EthiCS @ Harvard Teaching Lab  
 Cat Wade

*NOTE: this module should be labeled as “under development.”*

<b><u>Overview</u></b>	
<b>Course:</b> CS179: Design of Useful and Usable Interactive Systems	
<b>Course Level:</b> Upper-level undergraduate	
<b>Course Description:</b> “The course covers skills and techniques necessary to design innovative interactive products that are useful, usable and that address important needs of people other than yourself. You will learn how to uncover needs that your customers cannot even articulate. You will also learn a range of design principles, effective creativity-related practices, and techniques for rapidly creating and evaluating product prototypes. You will also have several opportunities to formally communicate your design ideas to a variety of audiences. You will complete two large team-based design projects.” <sup>1</sup>	
<b>Module Topic:</b> Ethical Perspectives on Accessible Video Game Design	
<b>Module Author:</b> Cat Wade	
<b>Semesters Taught:</b> Spring 2019	
<b>Tags:</b> harms [phil], moral rights [phil], utilitarianism [phil], moral obligation [phil], supererogatory actions [phil], disability [phil], equality of opportunity [phil], social good [phil], human-computer interaction [cs], systems design [cs]	
<b>Module Overview:</b> In this module we consider what it means to “design for inclusion,” as well as what reasons software developers have to adopt inclusive design practices. We consider three different kinds of arguments for inclusive design. First, economic arguments: developers should design for inclusion because it is to their economic advantage. Second, harm-based arguments: failing to design for inclusion risks harming others in an unjustifiable way. Third, rights-based arguments: failing to design for inclusion violates the moral rights of others. After introducing students to these different kinds of arguments for inclusive design, we ask them to apply them to real-world case studies of software development, including video game development.	
<b>Connection to Course Technical Material:</b> This module follows up directly on two previous classes on inclusive design. In the first, the professor for the course covers the basics of inclusive design and walks	

<sup>1</sup> <https://projects.iq.harvard.edu/cs179sp19/syllabus>

students through a number of concrete examples. In the second, a visiting speaker from the Perkins School for the Blind explains the distinctive needs of visually impaired users in greater detail and showcases software products the school has developed to meet those needs. These two classes set students up for the module's more explicit and rigorous discussion of ethical reasons that developers have to design for inclusion.

## **Goals**

### **Module Goals:**

- Understand the difference between rights-based and harms-based arguments for inclusive design.
- Apply these arguments to the case of video game design.
- Evaluate the strength and persuasiveness of different arguments for inclusive design.
- Practice communicating about the ethical importance of inclusive design.

### **Key Philosophical Questions:**

1. What is the difference between rights-based ethical theories and harms-based ethical theories?
2. How do these theories apply to the question of whether developers are morally obligated to design for inclusion?
3. How strong and persuasive are the resulting arguments for inclusive design?

## **Materials**

### **Key Philosophical Concepts:**

- Moral rights
- Equality of opportunity
- Harms
- Social goods
- Moral obligation
- Supererogatory actions

**Assigned Readings:** There are no assigned readings for this module.

## **Implementation**

### **Class Agenda:**

1. Setup: identifying ethical questions, introducing case studies, stipulating definitions of "disability" and "inclusive design."

2. Perspectives on inclusive design: economic and ethical.
3. Three ethical perspectives and their views on inclusive design.
4. Activity: thinking about inclusive video game design.

**Sample Class Activity:**

In this activity, students are given five examples of products or services:

1. a job search website;
2. a travel information website;
3. an ATM;
4. a museum entrance; and
5. a video game controller.

For each example, students consider two questions in small groups:

1. How important is it to have this product/service be accessible and why?
2. What specific aspects of the experience of this product/service might be challenging for a user with disabilities?

**Module Assignment:** In the final project for this course, students work in teams to identify a need for a product, develop a product idea, produce and test a prototype, and submit a final report detailing the product development process. The assignment for this module is integrated into the final report and requires students to write an “accessibility statement” for their product. In the statement, students first identify distinctive needs that users of their product with disabilities might have. Second, students explain how they would modify their product to better accommodate these needs, as well as which needs they would choose not to accommodate. Finally, students justify their position on which needs of disabled users to accommodate by drawing on one of the three ethical perspectives discussed in class.