Camera and Microphone

Mobile Application Development in iOS
School of EECS
Washington State University
Instructor: Larry Holder
Camera and Microphone

- AVFoundation framework
Camera

- **UIImagePickerController**
  - Present controller programmatically
    - User permission required
  - Pick/take picture or video
    - No videos, or taking picture/video, on simulator

- **UIImagePickerControllerDelegate**
  - didFinishPickingMediaWithInfo
    - Provides dictionary with point to picked media
Camera

@interface ViewController () <UINavigationControllerDelegate, UIImagePickerControllerDelegate>
- (IBAction) getImagePressed:(UIButton *)sender;
@end

@implementation ViewController
- (void) pickerView: (UIImagePickerController *) picker
didFinishPickingMediaWithInfo: (NSDictionary<NSString *, id> *) info {
    [self dismissViewControllerAnimated: true
    completion:nil];
    UIImage * image = [info objectForKey: UIImagePickerControllerOriginalImage];
    [imageView setImage:image];
}
- (IBAction) getImagePressed: (UIButton *) sender {
    _imagePicker = [[UIImagePickerController alloc] init];
    [_imagePicker setDelegate:self];
    [self presentViewController:_imagePicker animated:YES completion:nil];
}
Microphone

- AVAudioRecorder
- Create AVAudioSession
  - Set category
  - Set active
  - Microphone access permission request (not in simulator)
- Create AVAudioRecorder
  - Initialize with settings dictionary (e.g., format, sample rate)
  - Set delegate
- [AVAudioRecorder record], [AVAudioRecorder stop]
Microphone

```objective-c
// Setup audio session
AVAudioSession *audioSession = [AVAudioSession sharedInstance];
[audioSession setCategory:AVAudioSessionCategoryPlayAndRecord error:nil];
[audioSession setActive:YES error:nil];

// Set audio file name
NSArray *dirPaths = NSSearchPathForDirectoriesInDomains(NSDocumentDirectory, NSUserDomainMask, YES);
NSString *docsDir = [dirPaths objectAtIndex:0];
NSString *soundFilePath = [docsDir stringByAppendingPathComponent:@"audioFile"];
_soundFileURL = [NSURL fileURLWithPath:soundFilePath];

// setup recorder
NSMutableDictionary *recordSettings = [[NSMutableDictionary alloc] init];
[recordSettings setValue: [NSNumber numberWithInt:kAudioFormatMPEG4AAC] forKey:AVFormatIDKey];
[recordSettings setValue: [NSNumber numberWithFloat:44100.0] forKey:AVSampleRateKey];
[recordSettings setValue: [NSNumber numberWithInt:1] forKey:AVNumberOfChannelsKey];
_recorder = [[AVAudioRecorder alloc] initWithURL:_soundFileURL settings:recordSettings error:nil];
_recorder.delegate = self;

[player record];

_player = [[AVAudioPlayer alloc] initWithContentsOfURL:_soundFileURL error:nil];
_player.delegate = self;
[player play];
```
Resources

• Using Audio and Video