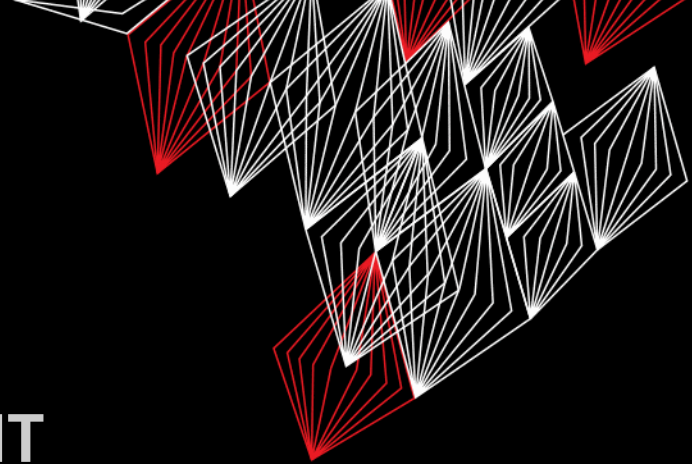UNIVERSITY OF TWENTE.

APPLICATION DEVELOPMENT

INTRODUCTION
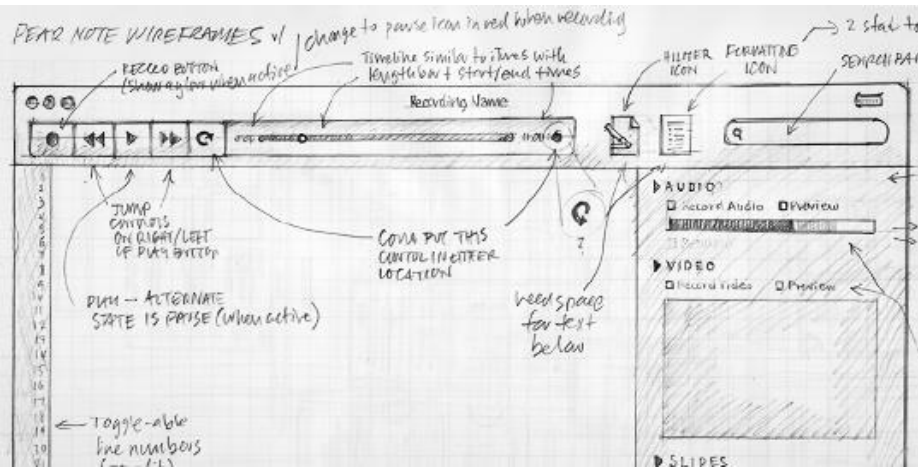
```
class AppDev {
```

Java

```
}
```

Part of **SmartProducts**

WHAT DOES APPLICATION DEVELOPMENT OFFER?

- Understand how computers & apps work

- Create electronics powered by Arduino

- Design & develop applications (software)

  - Apply design & specification methods

SOFTWARE: 'BRAIN' OF A SMART PRODUCT

- Integrates, connects
- Makes smart

- Applied? Embedded in (small) devices, online, widgets, userinterfaces
- Design, develop, test

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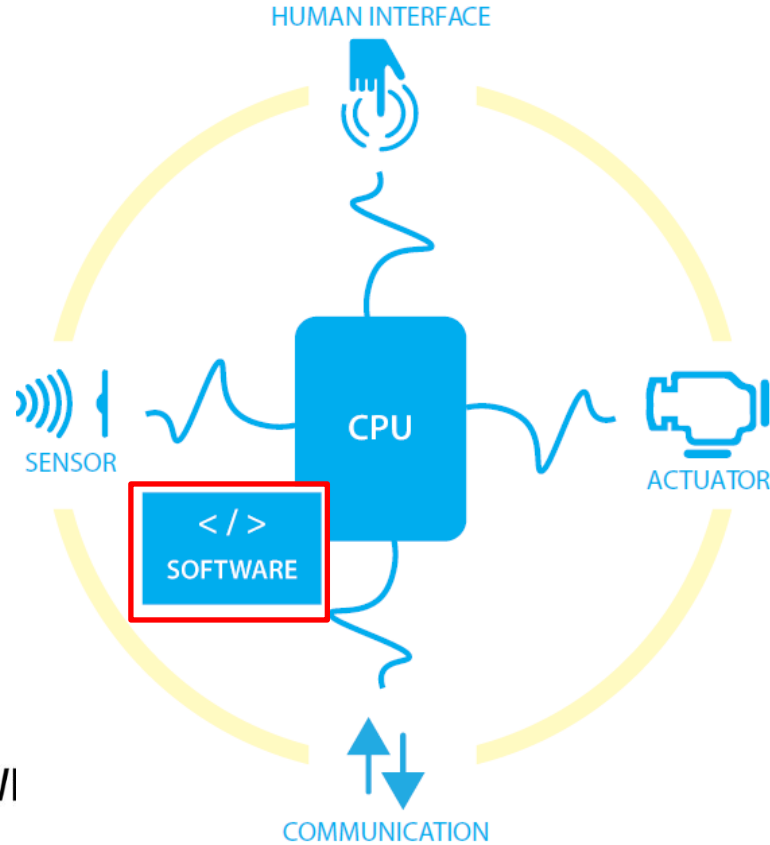
STRUCTURE OF THIS COURSE

- Mostly on Fridays, with few exceptions (see schedule)

- Assessment: assignments

- <u>Time needed per week</u>: 4 hours *learn*, 4 hours *project*, 2 hours *self-study*

Morning:
Presentation + tutorial session

Afternoon:
Work on project

Focus: ***learn***;
Work on assignment

Focus: ***apply***; programming & interaction for project assignment

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LEARN CODING

- Programming languages
- C
- Java:

```
while ( bike.moves() && sensor.isDark() ) {
    light.on();
}
```

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INTRODUCTION TO JAVA

Java

```
source code;
class LetsParty {
do interactive;
while
(wholeNight)
}
```

Compile
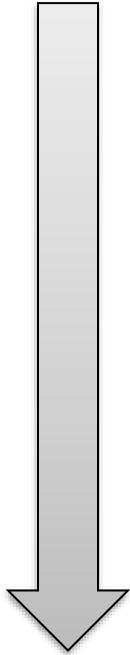
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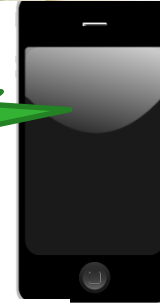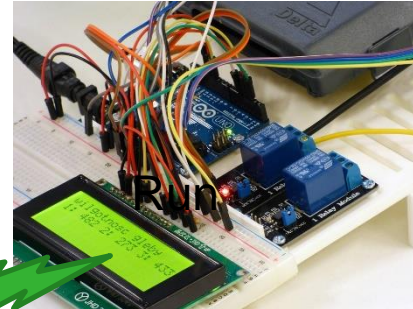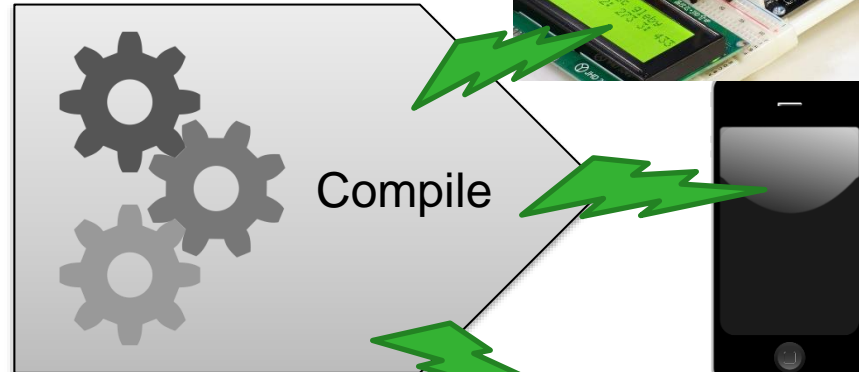
DESIGN AN APPLICATION

top

down

analyze > design >> implement

- Analyze: sketch ideas, think (out loud), find (sub) questions, (re) search, specifications
- Design: sketch (concepts), describe (functions, methods), map (real world→class), pseudo code
- Implement : write code, draw (with computer), detail
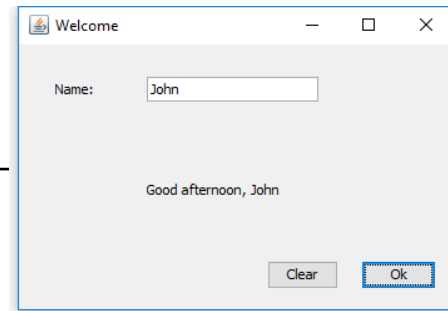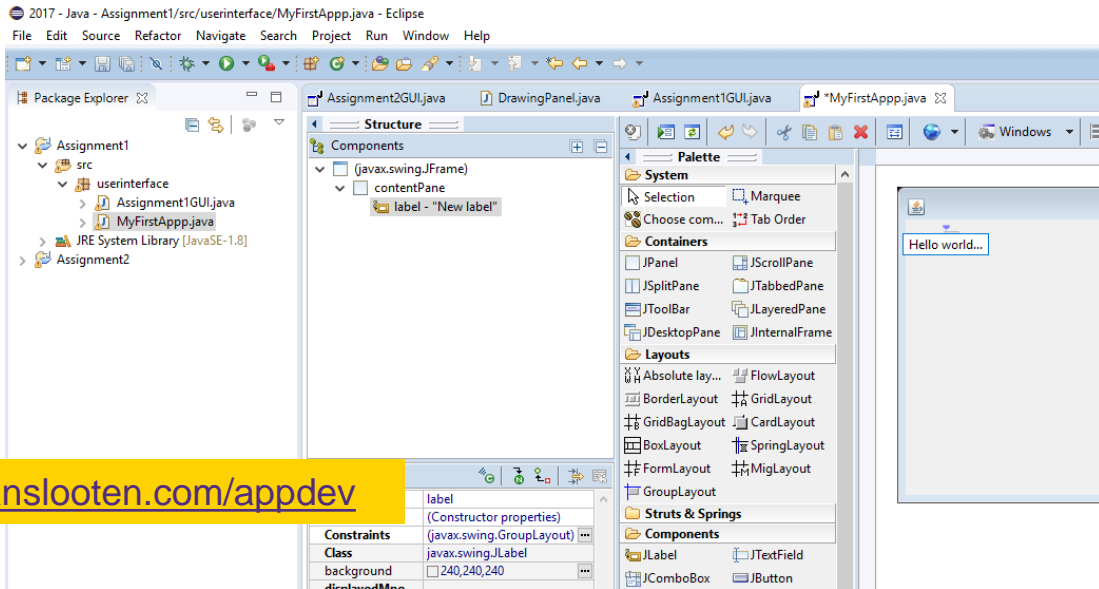
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CREATE AN APPLICATION

- Use Eclipse
- Work on assignments

Check out @ vanslooten.com/appdev