



Mom o Meter

Major Qualifying Project
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Agenda

- ☐ Problem Statement
- ☐ Project Goals and Objectives
- ☐ Application Demo
- ☐ Methodology
- ☐ System Architecture & Implementation
- ☐ Results and Conclusions
- ☐ Recommendations

✓ Problem

– Low-adherence to GWG guidelines

	Normal Weight	Overweight	Underweight
Above target	4.3%	24.1%	-
Below target	10.4%	-	51.2%

– Current paper book solution

- Tedious
- Error prone
- Adherence is difficult



*Gestational
Weight Gain*



✓ Project Goals

Use mobile technology to:

Improve availability
of information

Automate manual
processes

Reduce strain on
patient and
provider

Increase
motivation and
adherence to
guidelines

Our Solution: Mobile Self Help Tool

Self-care

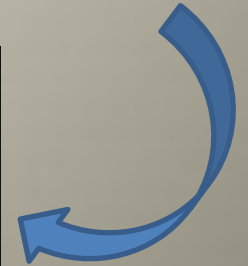
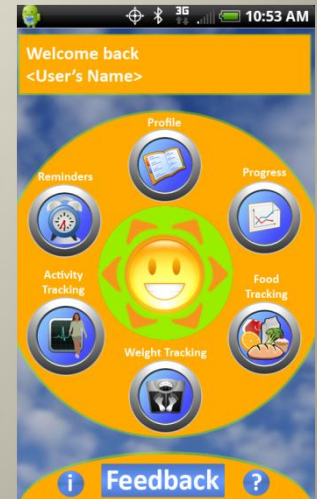
Timely
feedback

Instant access
to information

Customization

✓ Solution Overview

- Wellness Tracking
 - Weight
 - Activity
 - Food Intake
- Chart Progress and Give Feedback
- Motivational Reminders
- Information Library





Video of Application

- [http://www.youtube.com/watch?v=VE9LiJxiRY](http://www.youtube.com/watch?v=VE9LiJxiRY4)
4

Methodology

Software Development Methodology

Scrum

Product backlog

Sprints (6)

Weekly meetings

Evaluation methodology

Medical Professionals

Medical
Research

Medical
Expertise

Patients

Focus groups (2)

Interviews
(3)


UI
Evaluation

Desired
features



Sprints (1-3)

Sprint 1 – Oct 26th ~ Nov 8th
Application UI
Reminder Component



Sprint 2 – Nov 9th ~ Nov 23rd
Database Components
Weight tracking



Sprint 3 – Nov 29th ~ Dec 14th
Nutrition tracking
Activity tracking



Sprints (4-6)

Sprint 4 – Jan. 17th ~ Jan 28th

Feedback component
Information Library

Sprint 5 – Jan. 29th ~ Feb. 18th

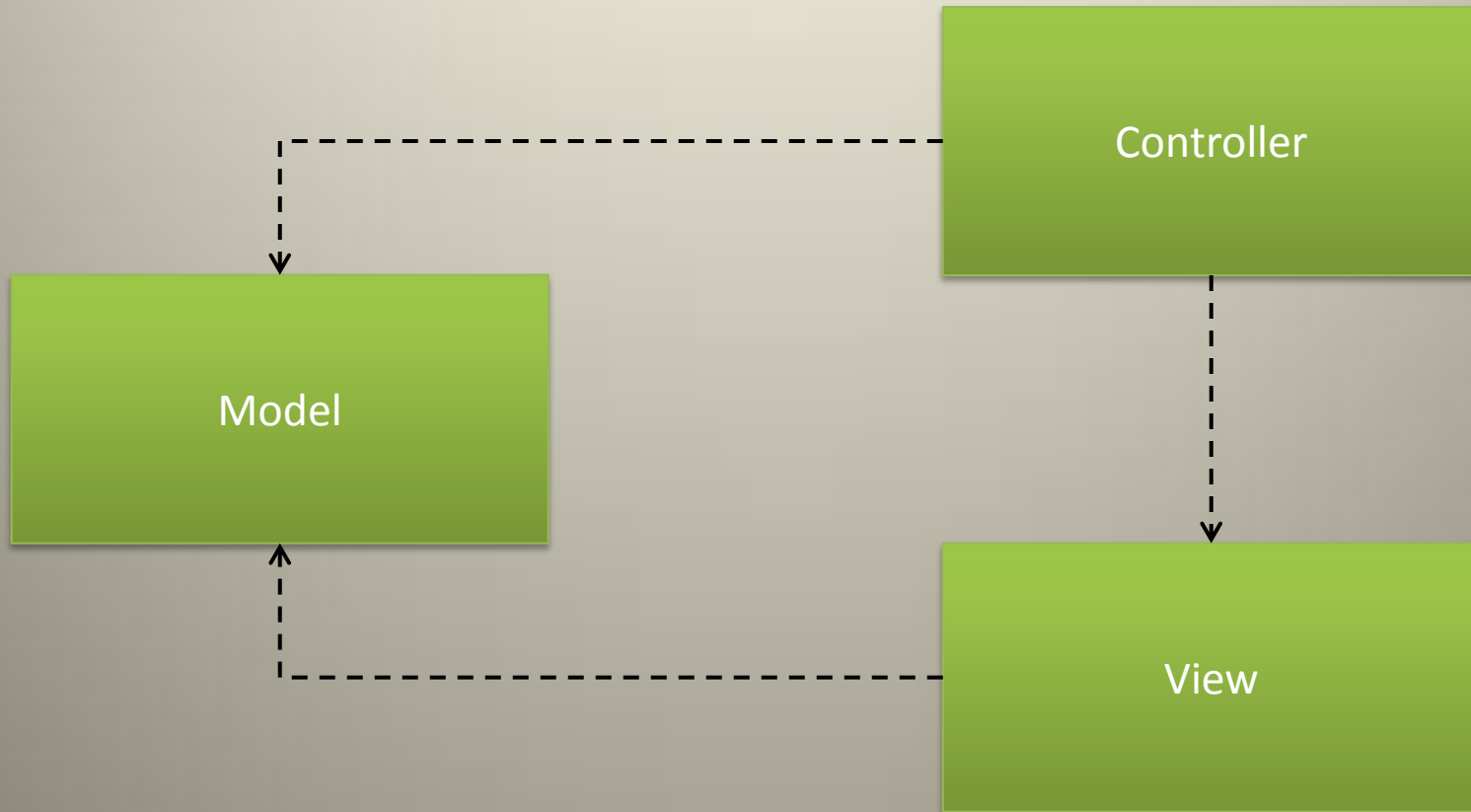
Tracking Components
Information Library

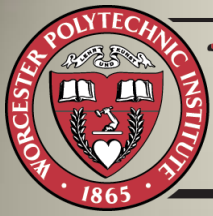
Sprint 6 – Feb 19th ~ Mar 4th

Bug fixes
UI Polishing



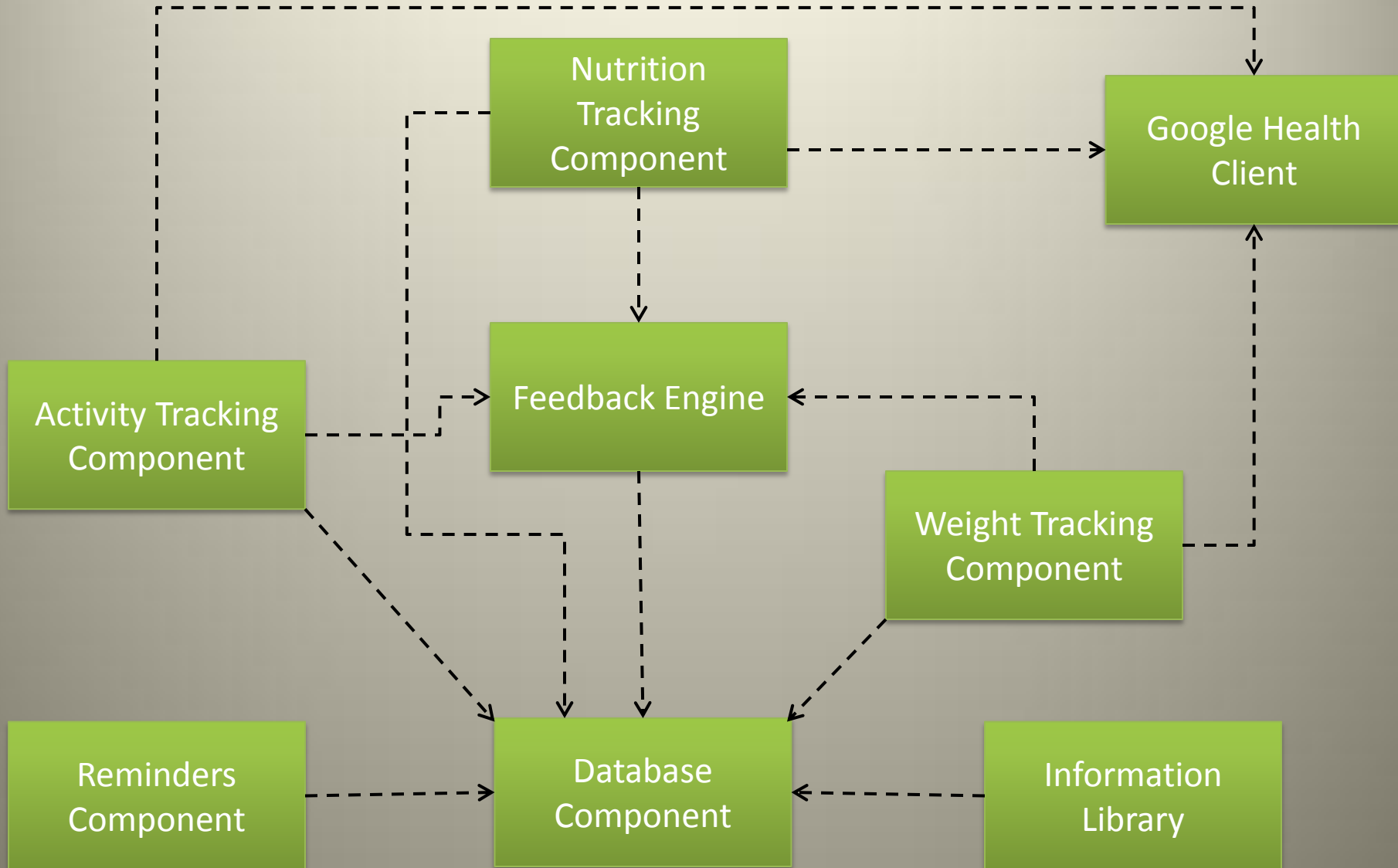
System Design

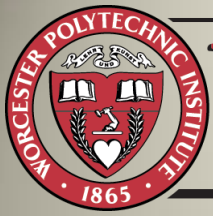




WPI

System Architecture

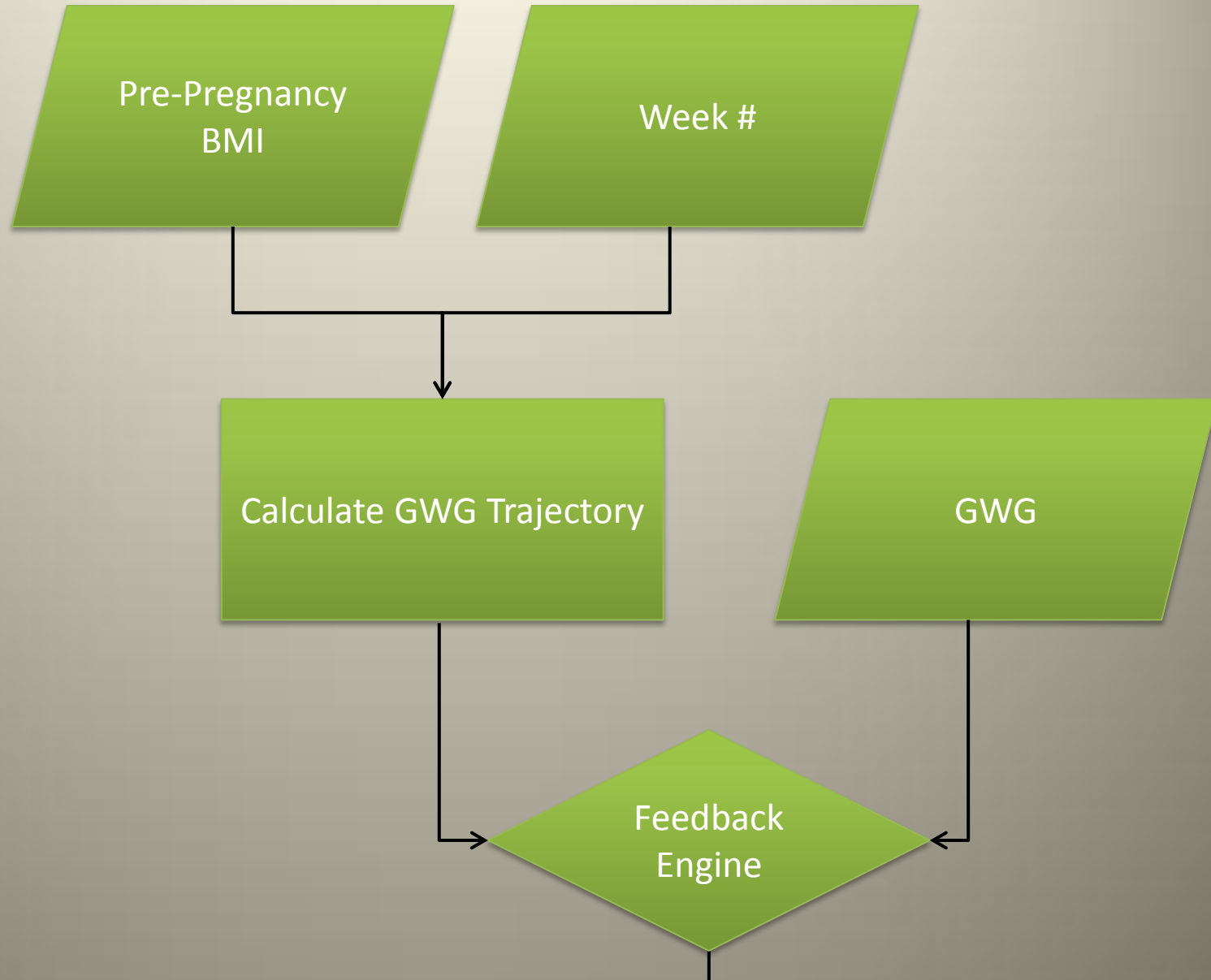


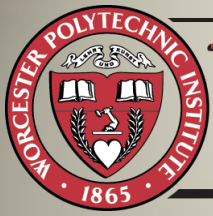


WPI



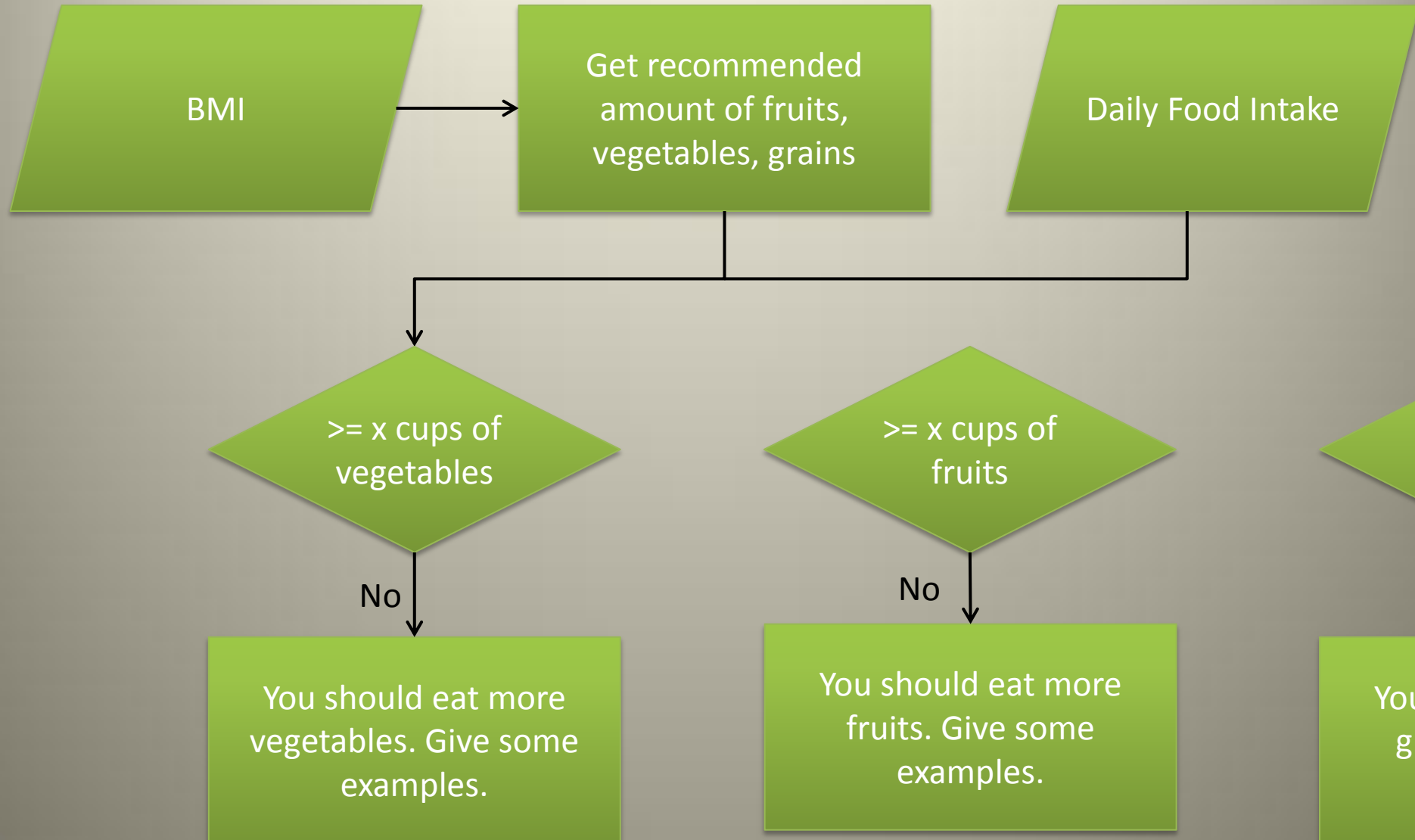
Weight Feedback Engine



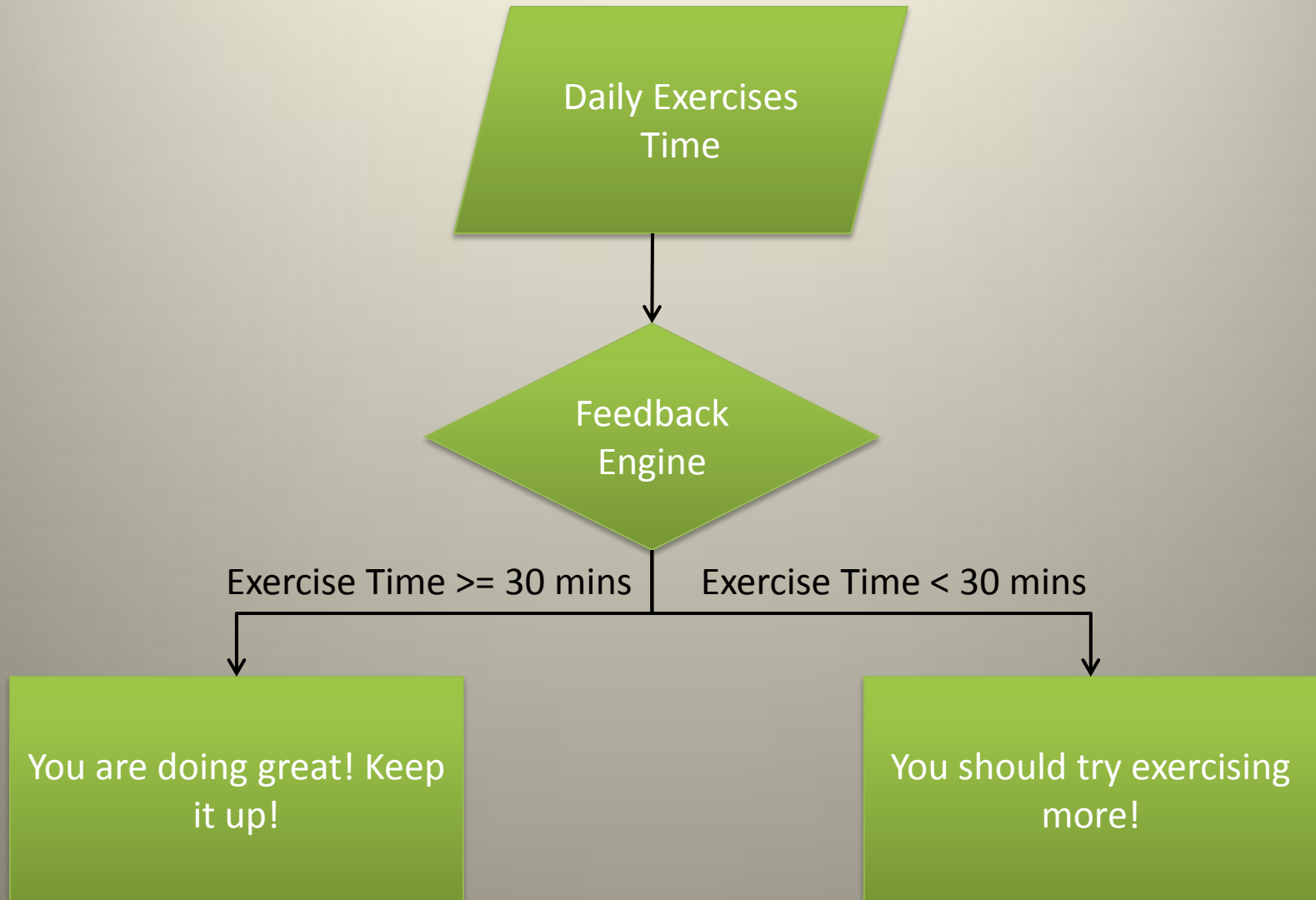


WPI

✓ Food Feedback Engine



✓ Activity Feedback Engine



Final Products

- Mom-O-meter Android application
- Source code and documentation
- User manual
- Final report
- AMIA Poster





Results and Conclusions

- Developed a fully functional Android application
- Developed measure to assess general acceptance of application usability and design
- Conducted focus groups and interviews to generate feedback, future development possibilities and recommended changes
- Built the framework for a more comprehensive pregnancy application



Recommendations

- Further test the application to evaluate the effectiveness (i.e. clinical trials)
- Expand feature set
 - More customizable
 - Wellness data reports
 - Integration with provider information systems
- Evolve the nutritional component
- Turn into a more comprehensive pregnancy application



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 - Professor Emmanuel Agu



Questions and Discussion