

Project Plan

Toro Irrigation Scheduler

Team 9: Toro
CSE 498, Collaborative Design

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Functional Specifications

- Create a modern user interface for the ECXTRA
 - Existing application lacks feel and usability
- Allow user to create customized irrigation schedules
 - Different watering schemes for individual zones
- Transfer irrigation schedules to ECXTRA controller via Toro 'Time Pod' (USB flash drive)
 - User will seamlessly transfer data to hardware without extensive configuration

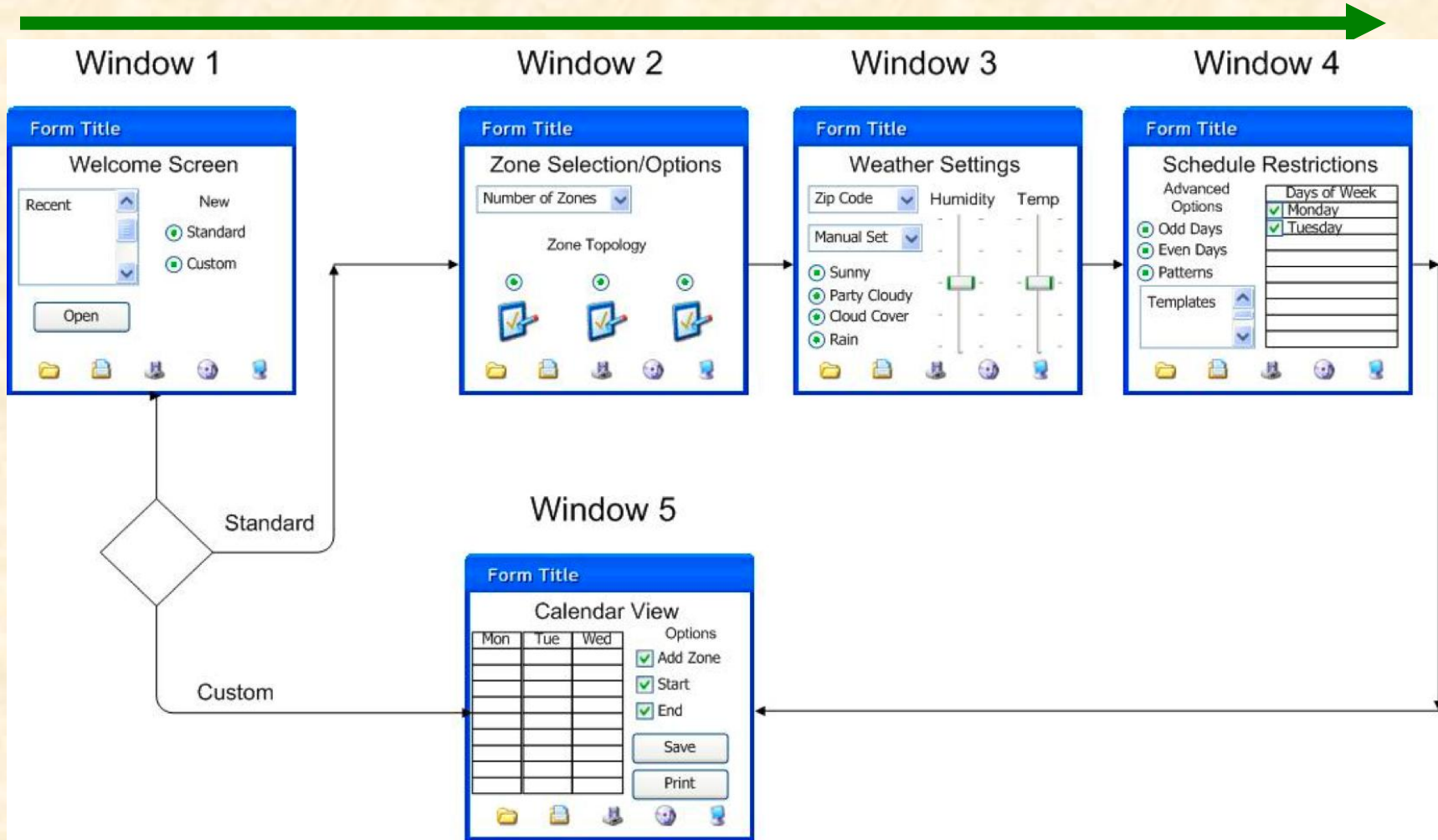


Design Specifications

- Graphically animated tab based interface
 - Five 'clickable' graphics will be located along the bottom of each window
 - Designed to ensure failsafe usability and visual representation of windows
- Wizard functionality alongside advanced options
 - Advanced users go straight to 'Calendar' view
 - Standard users go through a series of 4 windows
- Summary bar of completed steps always visible
- Easy access to help for each component



Screen Mockups



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Technical Specifications



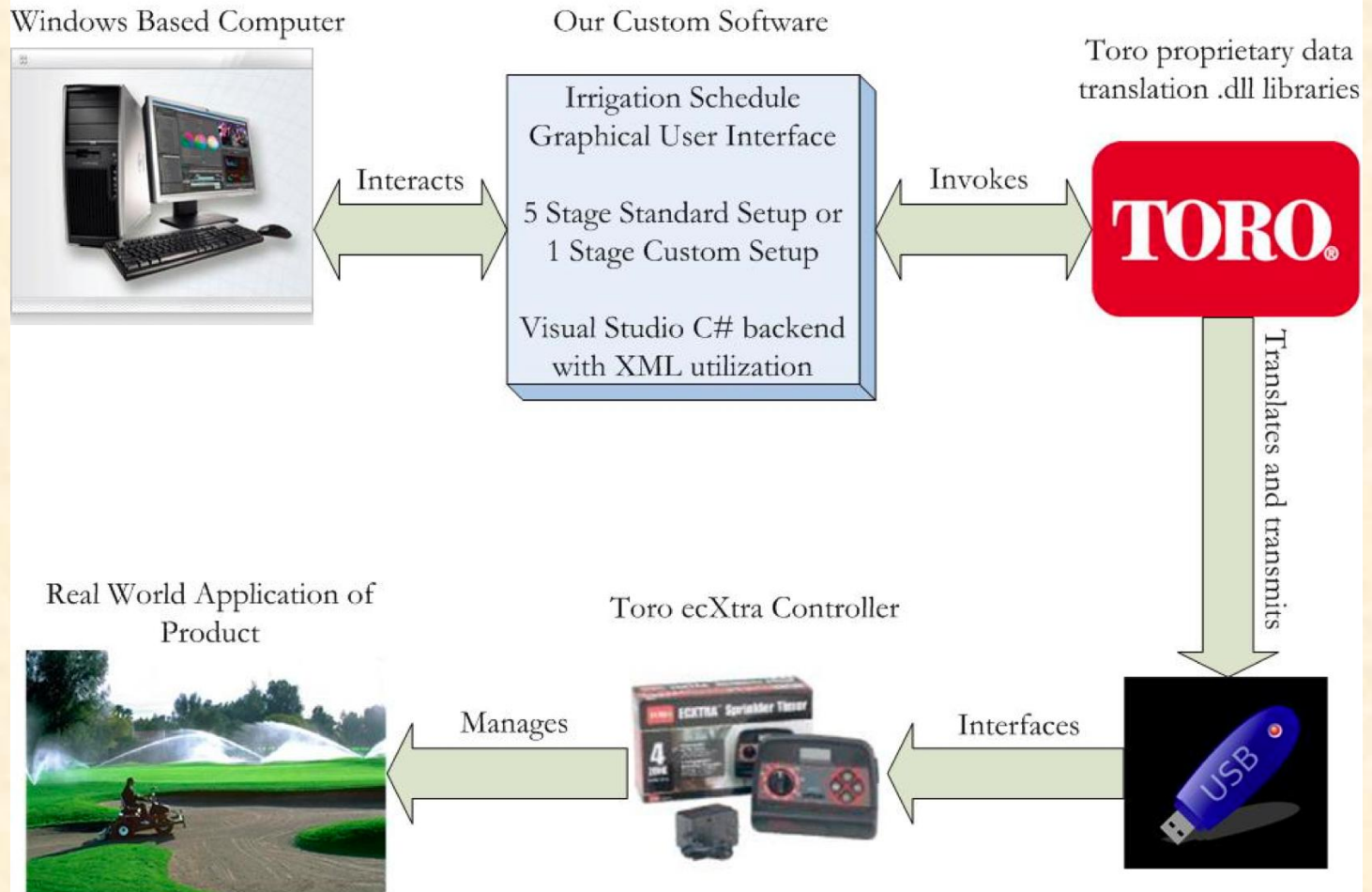
- Development
 - C# in a Visual Studio 2008 Environment
 - Use Microsoft Expression Blend and WPF for customizable modern interface
- Production
 - Will run on XP and Vista based PCs.
 - XML schedule and settings format.
- Architecture
 - A Windows(XP/Vista) based PC allows software to run and perform setup, which a USB drive retrieves info from, loads it to the Controller, and uses the data to manage schedules.

```
<zones>  
  <zone id="1" active="0">  
    <name>Backyard</name>  
    <topology>SlantUp</topology>  
    <plant>Grass</plant>  
    <runtime>5</runtime>  
    <programs>  
      <pa>1</pa>  
      <pb>1</pb>  
      <pc>1</pc>  
    </programs>  
  </zone>  
</zones>
```


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Architecture Illustrated

Team Toro Architecture Illustrated





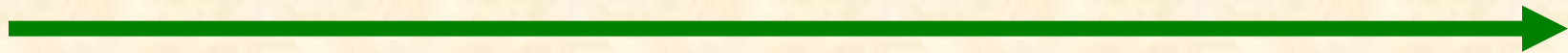
System Components



- Hardware Platforms
 - Toro ECXTRA irrigation controller
 - Toro 'Time Pod'
- Software Platforms / Technologies
 - Visual Studio 2008
 - C#
 - Expression Studio
 - Skinning application for C# GUIs
 - XML
 - Visual Basic
 - Editing legacy USB drivers



Risks



- Software
 - Translate XML data into proprietary data format
 - Operating system compatibility
 - Incorporating Toro scheduling algorithm
- Hardware
 - Communication with controller onto controller seamlessly
 - USB flash drive and application interfacing
- Design
 - Implement graphically built mock-ups into Visual Studio design architecture