Team Kwon Do
Project Plan

Nick Coriale, Mike Washburn, Andrew Deck, Andrew Vogler, Curtis Cali

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Overview

Tioga Tae Kwon Do is a small Tae Kwon Do studio in Waverly, NY. The Tioga Tae Kwon Do studio has switched to digital records for membership and attendance within the last few years. Previously, the studio worked with a senior project group to create a student management solution to track membership and attendance. The existing solution does not meet the needs of the sponsor, and a new solution is needed.

The new solution will use a Windows desktop computer as the application's central location, which other interfaces (such as tablets) will connect to. The solution should not be accessible from the World Wide Web. The primary goals of this system will be to track which students are active, tracking student attendance in classes, and managing emergency contact information of students.

We will begin work on the solution immediately (August, 2016) and will continue working until May 2017. We will initially spend 2 weeks on requirements analysis and then 2 weeks on software design. After that we will have development cycles of 2 weeks with deliverables at the end of each cycle. We will be responsible for delivering a polished final solution by the end of the semester in May, 2017.

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Goals and Scope

In Scope

The Tioga Tae Kwon Do Student Management System will provide the following features consistent with our requirements:

- Provide a simple and effective way for students to check-in for their classes.
- Designates active students for VendHQ and Constant Contact Email.
- Export active students and their contact information for use with VendHQ and Constant Contact Email services.
- Track and visualize student attendance over time.
- Export system data for backups.
- Import exported data into the system, including initial legacy exports.
- Manage student record information.
- Provide ability to register as a student.
- Provide ability to create classes for students to join.
- Determining and purchasing required tablets.

Out of Scope

The Tioga Tae Kwon Do Student Management System will not:

- Connect to any internet services, this includes but is not limited to constant contact services and payment services
- Create any class material
- Accept payments for classes
- Create a native application

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Deliverables

The Tioga Tae Kwon Do Records Management System will deliver the following items:

Task	Completed Date
Project website (www.se.rit.edu/~kwondo)	08/30/2016
Project synopsis	09/01/2016
Project information survey	09/06/2016
Project plan	09/10/2016
Development methodology documentation	09/16/2016
Product/process metrics documentation	09/16/2016
Domain model	09/16/2016
Release 1	10/06/2016
Release 2	10/20/2016
Release 3	11/03/2016
Release 4 (Milestone 1)	11/17/2016
Interim presentation	12/06/2016
Release 5	12/07/2016
Release 6	02/08/2017
Release 7	02/22/2017
Release 8	03/08/2017
Release 9	03/29/2017
Project poster	04/9/2017
Release 10	04/12/2017
Final presentation	May 2017 (TBD)
Technical report	5/12/2017

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Iteration Plans

Backlog:
- Partial Registrations
- Change class enrollments for students
- Allow students to enroll in more than one class
- Adding/Removing belts and stripes in the system

Iteration	Planned Tasks
Iteration 1	- Class Attendance - Registration - Deployment
Iteration 2	- Integrate and Polish UI/API for Class Attendance and Registration - Add support for multiple emails - Deployments - Class List - Student List
Iteration 3	- Instructor Check-in - Add Class - Student Page - Add support for switching active class
Iteration 4	- Student Pictures - Individual Student Attendance Tracking
Iteration 5	- Edit Student - Import/Export - Authentication
Iteration 6	- Finish Authentication - Add Pagination on Student List - Finish Import/Export - Class Attendance - Add Karma testing - Auto Deployment - Finish Edit Student
Iteration 7	- Waiver view - Partial Registration - Add/Remove Belts and Stripes - Checkin instructors - Add/Remove Student to class

Iteration 8	● Picture integration with Device camera ● Change picture orientation ● UI Design ● Firefox browser testing ● Taking pictures of waivers with device camera ● User management ● Instructor edit page
Iteration 9	● Live User Testing ● Focus on automated tests ● Tablet Responsiveness Testing ● Modifying/edit Programs ● View belt/stripe history on student detail page ● Implement/fix all back navigation ● Redesign 2
Iteration 10	● All bug fixes ● Finalize styling changes ● Deployment at TTKD

Milestones

Milestones	Date	Tasks Completed
Milestone 1	11/30/2016	● Class Attendance ● Registration ● Deployment ● Class List ● Student List ● Instructor Check-in ● Add Class ● Student Page ● Edit Student ● Student Attendance Tracking

Risk Management

Description	Mitigation	Severity (1-5)
Misinterpreting Requirements	● Verify core system requirements with sponsor ● Perform iterations to reduce the severity of misinterpreted requirements	4

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Lack of Effective Communication	● Attend 2 Weekly Meetings ● Utilize slack messaging utility for constant communication ● Track milestone tasks and deliverables in Trello	3
Fail to complete planned work in iteration	● Review team hours tracked to verify if all team members are working at least 8 hours a week ● If tasks begin to snowball, we will reprioritize items in the iteration to complete the most important tasks	2
Technical issues in sponsor meetings	● Prepare all technologies before meetings and have backup plans in case one were to fail	2
Project scope is too large	● Entire team and sponsor should meet to determine the most essential items and remove everything not essential	3
Technology used is insufficient for project	● Examine how technology is insufficient and seek solutions using the internet and other resources, if no solution can be found, convert the project to another technology as fast as possible and re-examine the scope of the project as necessary	2
Sponsor dissatisfied with project plan	● Discuss with project sponsor, and make any modifications necessary. This will require the team to work extra during a week to not offset the schedule.	3
Deploying builds remotely	● Research alternatives to teamviewer as a technology for remote connections	4
Lack of experience with technology used	● Do not pick a technology that no one has ever used, and at the start require in-experienced members to take tutorials or peer program with an experienced member	2
Lack of testing with target audience	● The target audience is ages 3 to 65 for this software, the team needs to test with children, teens, adults and seniors to make sure that the system is usable by all age groups	3

Lack of functional testing	● Test functional edge cases thoroughly, not just core functionality. ● Have people outside the development team test some of the functionality.	4

Schedule & Estimates

Scheduled Item	Estimate	End Date
Software Conceptualization	1 Week	08/31/2016
Preliminary Requirements Analysis	2 Weeks	09/14/2016
Design of Architecture and System Core	2 Weeks	09/28/2016
Iteration 1	2 Weeks	10/06/2016
Iteration 2	2 Weeks	10/20/2016
Iteration 3	2 Weeks	11/03/2016
Iteration 4	2 Weeks	11/17/2016
Iteration 5	2 Weeks, 6 Days	12/07/2016
Project Assessment and Planning	3 Days	01/25/2017
Iteration 6	2 Weeks	02/08/2017
Iteration 7	2 Weeks	02/22/2017
Iteration 8	2 Weeks	03/08/2017
Iteration 9	2 Weeks, 3 Days	03/29/2017
Iteration 10 (TTKD Deliverables Complete)	2 Weeks	04/12/2017
Finalize Department Deliverables	4 Weeks	05/10/2017

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Measurements & Metrics

Throughout the entire project the team will be tracking four metrics, individual time/effort per week, team time/effort per week, bugs per release and requirement defects per release.

Individual Time/Effort Per Week

Each week, each team member will log what they have accomplished during the week with the actual time it took and what they are planning on accomplishing in the next week with estimated times. Individual team tracking can be found on the project website (www.se.rit.edu/~kwondo) under the time tracking tab.

Team Time/Effort Per Week

Each week, after all team members have completed their own detailed list of week accomplishments, their total actual time for the week and the estimated time for the next week will be placed on a combined document. This combined document shows the team's total estimated and actual times for each week. Team tracking can be found on the project website (www.se.rit.edu/~kwondo) under the time tracking tab.

Bugs Per Release

Using the evolutionary development process methodology, there will be a release at the end of every iteration (every two weeks with a few exceptions around student breaks). Because code is never perfect, these releases will have bugs, however the number of bugs should decrease over the length of the project. The team is using this metric to track and ensure that the number of bugs in each iteration actually decreases. If this is not the case, the team will notice by looking at this metric.

Requirement Defects Per Release

The evolutionary development process will allot for 10 releases to our project sponsor. This will allow for the project sponsor to see the product as it's developed, which can potentially lead to two types of requirements defects. In one case the project sponsor will identify requirements we did not meet correctly. In the second case they will create new requirements after seeing the actual product.

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Technical Process

Methodology

Team Kwondo will use an iterative evolutionary delivery methodology to navigate through the software development lifecycle. This methodology was chosen because it allows the team to adapt to change while developing a solid foundation in the form of requirements and architecture.

Tools

Team Kwondo will use the following tools to help maintain artifacts and remain organized:
- Slack
- Google Docs
- Github

Internal Artifacts

Team Kwondo will utilize the following artifacts to properly manage the process:
- Project Plan
- Requirements Document
- Weekly 4-Up Documents
- Weekly Meeting Agendas
- Time Tracking