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AGILE DEVELOPMENT METHODOLOGY

Scrum

iCrawler

Contents

1 Overview

This document is intended to serve as a reference for the development methodology used for the iCrawler App; which was proposed by Emilio Mumba for COS301 final year project.

The app is intended to promote readiness in digital forensics, protect users from malicious entities and activities, and provide proactive measures that are undertaking by the mobile device user/owner. It monitors user activities and collects data/logs from the device. The data is then reported to a desktop computer which generates reports that give the investigator/parent/guardian/employer a good starting point in his/her investigation/review/research.

2 Roles

There are three core roles[10] with a range of ancillary roles. These core roles are committed to the project in the scrum process.

2.1 Product Owner

Name: Emilio Raymond Mumba
Responsibilities: He is responsible for product vision; he accepts or rejects each product increment. He constantly re-prioritizes the Product Backlog, adjusting any longterm expectations such as release plans. He is the final arbiter of requirements questions.

2.2 Development Team

Name: The 5 Concurrent Nodes
Responsibilities: Intensely collaborative and cross-functional. They are responsible for delivering potentially shippable increments (PSIs) of product at the end of each sprint (the sprint goal). The team is made up of five individuals who do the actual work.

2.3 Scrum Master

Name: Khathutshelo Shaun Matidza
Responsibilities: He is responsible for ensuring that the team follows the agreed scrum processes, facilitating key sessions, and encourages the team to improve. He enforces timeboxes.

3 Events

3.1 Sprint

A sprint is the basic unit of development in scrum. It is restricted to a specific duration.[18] The duration is fixed in advance for each sprint and is normally between one week and one month, with two weeks being the most common.[9]

At the beginning of a sprint we hold a *sprint planning event.*[18] This event takes place after every contact session with the client or module coordinators, which is usually every two weeks. During this planning we decide on what work needs to be done during the sprint duration. Our client (stakeholder) has access to our Git Hub repository, which at the end of each sprint he gets to see the current progress of the app.
When the sprint comes to an end we hold a *sprint review.* Here we review the work that was completed and the planned work that was not completed during the past sprint. We also present the completed work to the client/stakeholders (a.k.a *demo*).
The review is thus followed by a *sprint retrospective.* On this event we reflect on the past sprint; we identify and agree on continuous process improvement actions.

3.2 Daily Scrum

We hold a *daily scrum* (or stand-up) each day during a sprint to discuss what an individual did the day before, what they plan on doing today and also if they see any impediments that might prevent them from reaching the sprint goal. The best time we opted for is after a lecture that we all share; this is to try and have all members to attend the daily scrum (although attendances of all members is not compulsory). The length of the daily scrum is constrained to 15min max., which explains why we stand.

4 Artifacts

4.1 Product backlog

The *product backlog* comprises an ordered list of *requirements* that a scrum team maintains for a product. It consists of features, bug fixes, non-functional requirements, etc.-whatever needs doing in order to successfully deliver a viable product.

Item	**Est. time**	**Priority**
User login	5hrs	High
User register	5hrs	High
Welcome page	10hrs	Low
Database	5hrs	High
Retrieve device info	5hrs	High
Run in background	5hrs	Medium
Testing	72hrs	High
Data report	5hrs	High
UI styling	15hrs	Low
User manual	30hrs	Medium
App UI design	5hrs	High

4.2 Sprint backlog

The *sprint backlog* is the list of work the development must address during the next sprint.

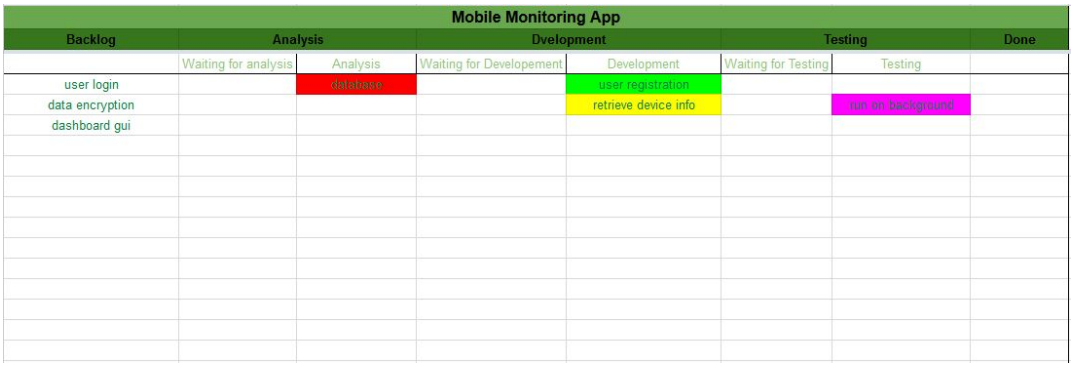
Item	**Duration**	**Feedback**
UI design	3rd May - 15th May	Completed
User register	17th May - 29th May	Completed
User login Dashboard UI design Retrieve device info User manual App UI design(*new)	24th June - 24th July	In progress

4.3 Product increment

The *increment* (or *potentially shippable increment*, PSI) is the sum of all the product backlog items completed during a sprint and all previous sprints. At the end of a sprint, the increment must be completed, according to the team's Definition of Done (DoD), and in a usable condition regardless of whether the product owner decides to actually release it.
Click here to go to gitHub repository

4.4 Sprint burn-down chart

The *sprint burndown chart* is a public displayed chart showing remaining work in the sprint backlog. It gives a simple view of the sprint progress. During the sprint planning the ideal burndown chart is plotted. During the sprint, each member picks up tasks from the sprint backlog and works on them. The burndown chart is updated day by day.



Click here for online burn-down chart

5 Terminology

The following explains some of the terms used in the scrum process.

Scrum team
Product owner, scrum master and development team

Product owner
The person responsible for maintaining the product backlog by representing the interests of the stakeholders, and ensuring the value of the work the development team does.

Scrum master
The person responsible for the scrum process, making sure it is used correctly and maximizing its benefits.

Development team
A cross-functional group of people responsible for delivering potentially shippable increments of product at the end of every sprint.

Sprint burn-down chart
Daily progress for a sprint over the sprint's length.

Product backlog
A prioritized list of high-level requirements.

Sprint backlog
A prioritized list of tasks to be completed during the sprint.

Sprint
A time period (typically 1-4 weeks) in which development occurs on a set of backlog items that the team has committed to.