PRILOGE

PRILOGA A: ŠTEVILO TIPOV CITATOV NA LETO IZDAJE RAZISKAVE



Vir: (Aleem, Capretz, in Ahmed 2016b, 14)

PRILOGA B: ŽIVLJENJSKI CIKEL METODOLOGIJE ZA RESNE IGRE GAMED

Vir: (Aslan in Balci 2015, 309)

PRILOGA C: SPIRALNI MODEL ZA PODPORO OBLIKOVANJU IGRE PRI METODOLOGIJI GAMED



Vir: (Aslan in Balci 2015, 313)

PRILOGA D: PREDLAGANI ŽIVLJENJSKI CIKEL RAZVOJA ZA VIDEO IGRE PO WIDYANI



Vir: (Ramadan in Widyani 2013, 98)

PRILOGA E: OSNOVNI ARTEFAKTI RAZVOJA VIDEO IGER PO AVTORJIH

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| AVTOR | ARTEFAKTI |  |  |  |  |  |  |  |  |
| Novak (2012) | KONCEPT | PREDLOG IGRE | NAČRT IGRE | VODNIK UMETNIŠKEGA SLOGA | TEHNIČNI DOKUMENT | PROJEKTNI NAČRT | NAČRT TESTIRANJA |  |  |
| Bates (2004) | NAČRT IGRE | OPIS OBLIKOVANJA | SPECIFIKACIJA POTREB | PLAN KONFIGURACIJE | NAČRT INTEGRACIJE TESTIRANJA | NAČRT TESTIRANJA | UPORABNIŠKI PRIROČNIK |  |  |
| Rucker (2002) | SPECIFIKACIJA | NAČRT IGRE | ČASOVNI NAČRT | NAČRT OBLIKOVANJA | DOKUMENTACIJA | UPORABNIŠKI PRIROČNIK |  |  |  |
| Schell (2008) | OBLIKOVANJE (PREGLED OBLIKOVANJA, PODROBNI NAČRT IGRE, PREGLED ZGODBE) | INŽENIRING (TEHNIČNI DOKUMENT, PREGLED DELOVNEGA TOKA, OMEJITVE) | UMETNOST (UMETNIKOVA BIBLIJA, PREGLED KONCEPTOV UMETNIN) | UPRAVLJANJE(PRORAČUN, ČASOVNI NAČRT) | PISANJE (ZGODBA NARACIJA. UPORABNIŠKI PRIROČNIK) | IGRALCI (IGRALNI VODNIKI) |  |  |  |
| Richard Rouse III  (2004) | KONCEPT (PITCH, PREDLOG) | KONKURENČNA ANALIZA | NAČRT OBLIKOVANJA | DIAGRAM POTEKA | ZGODBA, NARACIJA | UMETNIKOVA BIBLIJA | TEHNIČNI DOKUMENT | ČASOVNI, POSLOVNI IN MARKETINŠKI DOKUMENTI |  |
| Adams (2013) | VIŠJI KONCEPT, ANALIZA IGRE | ANALIZA IGRE | OBLIKOVANJE OSREDNJEGA IGRALCA | OBLIKOVANJE SVETA | OBLIKOVANJE UPORABNIŠKEGA VMESNIKA | DIAGRAM POTEKA | ZGODBA IN NAPREDOVANJE PO STOPNJAH | TEKST IN AVDIO | SCENARIJ IGRE |
| Bartle (2003) | DOKUMENT VIZUALIZACIJE | NAČRT OBLIKOVANJA | TEHNIČNI NAČRT | UMETNIŠKA BIBLIJA | UPRAVLJANJE PRODUKCIJE | PROTOTIP |  |  |  |

PRILOGA F: PRIKAZ FAZ RAZVOJA PO AVTORJIH

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| AVTOR | FAZE |  |  |  |  |  |  |  |  |  |  |
| Novak (2012) | KONCEPT | PRED PRODUKCIJA | PROTOTIP | PRODUKCIJA | ALFA | BETA | GOLD | POST PRODUKCIJA |  |  |  |
| Unger in Novak (2011) | PRED PRODUKCIJA | PRODUKCIJA | ALFA & BETA | GOLD | POST PRODUKCIJA |  |  |  |  |  |  |
| Ramadan in Widyani (2013) lasten podroben | INICIACIJA | PRED PRODUKCIJA | PRODUKCIJA | TESTIRANJE | BETA | IZDAJA |  |  |  |  |  |
| Bates (2004) | RAZVOJ KONCEPTA | PRED PRODUKCIJA | RAZVOJ | ALFA | BETA | PREKINITEV KODIRANJA | IZDAJA | POPRAVKI | POSODOBITVE |  |  |
| Aslan in Balci (2015) | FORMULACIJA PROBLEMA | IZDELAVA IDEJE | NAČRTOVANJE IGRE | RAZVOJ ZAHTEV | ARHITEKTURA | NAČRTOVANJE PROGRAMSKE OPREME | PROGRAMIRANJE | INTEGRACIJA | IZDAJA | UČENJE | POVRATNA INFORMACIJA |
| Bartle (2004) | PRED PRODUKCIJA | PRODUKCIJA | IZDAJA | PODPORA |  |  |  |  |  |  |  |
| Fulleton (2014) | KONCEPT | PRED PRODUKCIJA | PRODUKCIJA | ZAGOTAVLJANJE KVALITETE | VZDRŽEVANJE |  |  |  |  |  |  |

PRILOGA G: PRIMERJAVA TEMELJINIH KONCEPTOV METOD INŽENIRINGA PROGRAMSKE OPREME



Vir: (Engels in Sauer 2010, 418)

PRILOGA H: PRAKSE RAZLIČNIH AGILNIH PROCESNIH MODELOV IN NJIHOVE RAZLAGE

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| --- | --- | --- |
| MODEL | PRAKSA | NAMEN |
| XP | Igra načrtovanja | Tesno sodelovanje med naročnikom in programerji. Slednji podajo oceno zahtevnosti implementacije uporabniških zgodb na podlagi katerih se naročnik odloči o širini in času izdaje. |
| XP | Majhne/Hitre izdaje | Izdajanje enostavnih različic sistema 2 krat do 3 krat na mesec, ponekod tudi dnevno. |
| XP | Programiranje v parih | Dva človeka pišeta kodo na enem računalniku. |
| XP | 40 urni teden | Teden je sestavljen iz 40 delavnih ur. Niti dva delavna tedna, ki presežeta te ure nista dovoljena. Če se to zgodi se ta pojav rešuje kot problem. |
| Scrum | Dnevnik zaostankov | Dnevnik zaostankov definira vse kar je potrebno narediti za končni produkt. Sestavlja ga seznam prioritet in konstantno posodobljenih poslovnih in tehničnih zahtev sistema v izgradnji ali izboljšavi. |
| Scrum | Napoved obremenitve | Je iterativni proces v katerem se predmetom dnevnika zaostankov ob pridobivanju podatkov izboljšuje napoved obremenitve. |
| Scrum | Sprint | Je procedura produkcije novega inkrementa produkta v času imenovanem Sprint, ki navadno traja 30 koledarskih dni. |
| Scrum | Zaostanek sprinta | Je začetna točka vsakega Sprinta. Je lista predmetov iz dnevnika zaostankov. Predmeti so pred sprintom izbrani na podlagi prioritet in ciljev , ki so zastavljeni za novi Sprint. |
| Scrum | Dnevni sestanki | Dnevni sestanki, so organizirani za spremljanje napredka projekta. Traja navadno 15 minut. Vse pomanjkljivosti in ovire v procesih ali praksah so identificirane in odpravljene. |
| Crystal | Tehnika optimizacije metodologije | Namen prakse je izdelati specifično Crystal metodologijo z uporabo projektnih intervjujev in delavnic. Po vsakem inkrementu se lahko uporabi spoznanje in uporabi v naslednjem za izboljšanje procesa. |
| Crystal | Refleksijske delavnice | Pred inkrementom in po njem se izvajajo delavnice. Priporočeno pa je tudi med inkrementom. |
| FDD | Razvoj po funkcionalnostih | Razvoj in spremljanje napredka na podlagi seznama razdeljenih in esencialnih naročnikovih funkcionalnosti. |
| RUP | Vizualno modeliranje sistema | Zgrajeni so modeli sistema, saj so ti kompleksni za razumevanje. Pogosto se uporablja UML. |
| DSDM | Integracija testiranja skozi celoten življenjski cikel | Vsaka komponenta sistema se testira, ko se izvede njegov razvoj. Testiranje se izvaja inkrementalno. Zaradi evolucijskega razvoja je značilno regresijsko testiranje. |

Vir:(Abrahamsson in dr. 2017, 24–68)

PRILOGA I: KRITERIJI ZA IZBIRO ORODIJ UPRAVLJANJA PROJEKTOV RAZVOJA PROGRAMSKE OPREME



Vir: (Ahmad in Laplante 2006, 78)

PRILOGA J: OCENE PRAGA ZA DOSEGANJE POSAMEZNE STOPNJE ZRELOSTI

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| --- | --- | --- |
| Game maturity level | Total questions | Passing threshold (80%) |
| Ad-Hoc | 31 | 25 |
| Opportunistic | 51 | 41 |
| Consistent | 54 | 43 |
| Organized | 54 | 43 |
| Optimized | 43 | 36 |

Vir: (Aleem, Capretz, in Ahmed 2016a, 68)

PRILOGA L: IDENTIFICIRANIH 5 DIMENZIJ Z 18 FAKTORJI VPLIVA NA DELOVANJE IGRE IN RAZVOJNI PROCES



Vir: (Aleem, Capretz, in Ahmed 2016, 62)

PRILOGA M: VPRAŠALNIK ZA OCENITEV OPTIMIZIRANE ZRELOSTI RAZVOJNEGA PROCESA VIDEO IGER

**GDPA 5.1 GDD Management**

S.5.1.1 Defined game design guidelines and concepts are followed

for all new game development projects.

S.5.1.2 The GDD is well understandable by all stakeholders.

S.5.1.3 The GDD is available to all development team members

at the beginning of the production phase.

S.5.1.4 A log is maintained to record development team

members’ complaints regarding GDD transformation issues.

**GDPA 5.2 Team Configuration & Management**

S.5.2.1 Team configuration and management demonstrate a

positive impact on game development activities.

S.5.2.2 Team members are satisfied with the communication

and collaboration protocol.

**GDPA 5.3 Requirement Modelling and Management**

S.5.3.1 The target market segment is fully captured by the

identified requirements of a particular game.

S.5.3.2 Game requirements are reviewed and revised on a

regular basis when required.

S.5.3.3 The quality attribute of games is accommodated by

identified requirements.

**GDPA5.4 Game Prototyping**

S.5.4.1 Prototyping helps in improving and developing the

final game efficiently.

S.5.4.2 Prototyping helps in identifying game mechanics,

rules, and algorithms.

S.5.4.3 The developed prototype refines the created content

of the game and also balances the gameplay.

**GDPA 5.5 Risk Management**

S.5.5.1 Risk assessment is helpful in reducing associated

development risks.

S.5.5.2 There is a backup plan to handle identified risks and

explore other solutions that would reduce or eliminate risk.

S.5.5.3 The development team always has a functional and

technical design specification with a complete risk assessment

document before the start of the production phase

for all projects.

**GDPA 5.6 Quality of Architecture**

S.5.6.1 The management team is continuously improving the

evaluation process for game architecture quality.

S.5.6.2 Game architecture documents are reviewed and

updated regularly to avoid future bottlenecks.

S.5.6.3 Game architecture includes robustness features that

enable the game to be functional in unexpected circumstances.

**GDPA 5.7 Asset Management**

S.5.7.1 The asset management system can reduce duplication

of assets and remove outdated assets from the asset

library.

S.5.7.2 Assets created for a game fit into the game concept

and have a positive effect on game appearance.

**GDPA 5.8 Game Engine Development & Management**

S.5.8.1 The development team has adequate resources and

skills to develop its own game engines for game development

or to enhance the capabilities of existing ones by adding

middleware.

S.5.8.2 Game engines are reused for different game projects.

**GDPA 5.9 Test Management**

S.5.9.1 The selected testing approach ensures game performance

and quality.

S.5.9.2 The testing team experiments with innovative techniques

on a regular basis to improve the game testing

process.

S.5.9.3 A developed test plan keeps track of functional and

non-functional requirements test outcomes and uses the

results to improve game quality and playability.

**GDPA 5.10 Maintenance Support**

S.5.10.1 The maintenance support system team regularly

examines, maintains, and improves the support system for

effective and easy reporting service.

S.5.10.2 The project team is continuously improving the

maintenance support system for developed games.

**GDPA 5.11 Fun Factor Analysis**

S.5.11.1 A blend of playability and usability methods in addition

to innovative ideas are used to enhance the consumer

playability experience in term of challenges, storyline, game

level curiosity, full control, and feeling of independence.

S.5.11.2 The fun factor analysis strategic plan is monitored

on a regular basis, and improving it is a continuous strategic

effort of the project team.

**GDPA 5.12 Ease of Use**

S.5.12.1 Consumer feedback indicates satisfaction and ability

to navigate conveniently between menu.

S.5.12.2 The defined strategy to enhance consumer experience

related to ease of use metrics is regularly reviewed

and updated.

**GDPA 5.13 Market Orientation**

S.5.13.1 The organization is able to gain competitive advantage

by using its market orientation strategy.

S.5.13.2 Developed game concepts are aligned with the

requirements of the target market.

S.5.13.3 Developed games are able to maximize their consumers’

playing time.

**GDPA 5.14 Time to Market**

S.5.14.1 Games are published before competitors’ games.

S.5.14.2 Being first to market helps to retain existing consumers

and attract new ones.

**GDPA 5.15 Relationship Management**

S.5.15.1 Developed games are able to retain their consumers

for a long time.

S.5.15.2 The development team follows a balanced playerand

game-centred strategy.

**GDPA 5.16 Monetization Strategy**

S.5.16.1 The revenue model contributes to strengthening the

financial position of the organization.

S.5.16.2 The organization successfully achieves its financial objectives.

S.5.16.3 Return on investment increases over a period of

time.

**GDPA 5.17 Innovation**

S.5.17.1 Past innovative measures taken by the development

team have resulted in improved game development and

management processes.

**GDPA 5.18 Stakeholder Collaboration**

S.5.18.1 All stakeholders are involved in game-related decisions.

(Aleem, Capretz, in Ahmed 2016a, 67–68)